FACTORS INFLUENCING THE DEGREE OF BURNOUT EXPERIENCED BY NURSES WORKING IN NEONATAL INTENSIVE CARE UNITS

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DECLARATION

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ABSTRACT

Burnout is one of the challenges that nurses are faced with in their stressful and rapidly changing work environment. The vulnerability of nurses to burnout remains a major concern which affects both the individual and institution.

Knowledge about burnout and associated risk factors which influence the development of burnout is vital for early recognition and intervention.

The research question which guided this study was: "What are the factors influencing the degree of burnout experienced by nurses working in neonatal intensive care units?"

The objectives included determining which physical, psychological, social and occupational factors influenced the degree of burnout experienced by nurses.

A descriptive, explorative research design with a quantitative approach was applied. The target population consisted of (n=105) permanent nursing staff members working in the neonatal units of two different hospitals. A convenience sampling method was used. Participants (n=102) who gave voluntary consent to participate was included in the study.

Validity and reliability was supported through the use of a validated questionnaire, Maslach Burnout Inventory – General Survey including a section based on demographical information and a section based on physical, psychosocial, social and occupational factors. Validity of the questionnaire was supported by the use of a research methodologist, nurse expert and a statistician in the particular field. A pilot study was done to test the feasibility of the study and to test the questionnaire for any errors and ambiguities.

Ethics approval was obtained from Stellenbosch University and permission from the Heads of the hospitals where the study was conducted. The data was analyzed with the assistance of a statistician and these are presented in histograms, tables and frequencies. The relationship between response variables and nominal input variables was analysed using analysis of variance (ANOVA). Various statistical tests were applied to determine statistical associations between variables such as the Spearman test, using a 95% confidence interval.

Results have shown that participants experienced an average level of emotional exhaustion, a high level of professional efficacy and a low level of cynicism.

Further analyses have shown that there is a statistical significant difference between emotional exhaustion and the rank of the participant (p=<0.01), highest qualification (p=0.05) and a high workload (p=0.01). Furthermore a statistical significant difference was found between professional efficacy and rank of participants (p=<0.01). In addition a statistical significant difference was found between cynicism and the number of years participants were in the profession (p=0.05).

Multiple factors were determined in this study that influences the degree of burnout nurses experience. The majority of participants (n=56/55%) experienced decreased job satisfaction and accomplishment, (n=52/51%) of participants experienced that their workload is too much for them and (n=63/62%) participants received no recognition for their work.

Recommendations are based on preventative measures, because preventing burnout is easier and more cost-effective than resolving burnout once it has occurred.

In conclusion, the prevention strategies, early recognition of work stress and appropriate interventions are crucial in addressing the problem of burnout.

OPSOMMING

Uitbranding is een van die uitdagings waarmee verpleegsters te kampe het in hulle stresvolle en vinnig veranderende werkomgewing. Die kwesbaarheid van verpleegsters vir uitbranding bly 'n kritieke bekommernis wat beide die individu en die inrigting affekteer.

Kennis omtrent uitbranding en verwante risiko faktore wat die ontwikkeling van uitbranding beïnvloed, is deurslaggewend vir vroeë opsporing en intervensie.

Die navorsingsvraag wat hierdie studie gelei het, is: "Wat is die faktore wat die mate van uitbranding beïnvloed wat deur verpleegsters ondervind word wat in neonatale intensiewe sorgeenhede werk?"

Die doelwitte wat ingesluit is, is om te bepaal watter fisiese, sielkundige, maatskaplike en beroepsfaktore die mate van uitbranding wat deur verpleegsters ervaar word, beïnvloed.

'n Beskrywende, ondersoekende navorsingsontwerp met 'n kwantitatiewe benadering is toegepas. Die teikengroep het bestaan uit (n=105) permanente verpleegpersoneel wat in die neonatale eenhede van twee verskillende hospitale werk. 'n Gerieflikheidsteekproef metode is gebruik. Deelnemers (n=102) wat vrywillige toestemming gegee het om deel te neem, is ingesluit in die navorsingstudie.

Geldigheid en betroubaarheid is ondersteun deur die gebruik van 'n geldige vraelys van "Maslach Burnout Inventory – General Survey", asook 'n afdeling gebaseer op demografiese inligting en 'n afdeling gebaseer op fisiese, sielkundige, maatskaplike en beroepsfaktore. Geldigheid van die vraelys is ondersteun deur 'n navorsingsmetodoloog, 'n verpleegspesialis en 'n statistikus op die navorsingsgebied. 'n Loodsondersoek is gedoen om die haalbaarheid van die studie te toets en om die vraelys te toets vir enige foute en dubbelsinnighede.

Etiese goedkeuring is verkry van die Universiteit van Stellenbosch en goedkeuring van die Hoofde van die hospitale waar die studie uitgevoer is. Die data is geanaliseer met die hulp van 'n statistikus en is aangebied in histogramtafels en frekwensies. Die verwantskap tussen responsveranderlikes en nominale insetveranderlikes is geanaliseer deur gebruik te maak van die analise van variansie (ANOVA). Verskeie statistiese toetse is toegepas om

statistiese assosiasies tussen veranderlikes te bepaal, soos deur van die Spearmantoets gebruik te maak, met ’n 95% betroubaarheidsinterval.

Resultate het bewys dat deelnemers ’n gemiddelde vlak van emosionele uitputting, ’n hoë vlak van professionele effektiwiteit en ’n lae vlak van sinisme ervaar.

Verdere analise het bewys dat daar ’n statistiese beduidende verskil tussen emosionele uitputting en die rang van die deelnemers (p=<0.01) is, hoogste kwalifikasie (p=0.05) en ’n hoë werklading (p=0.01). Verder is ’n statistiese beduidende verskil gevind tussen professionele effektiwiteit en rang van deelnemers (p=<0.01). Saam hiermee is ’n statistiese beduidende verskil gevind tussen siniesheid en die aantal jare wat deelnemers in die beroep is (p=0.05).

Voorts, is veelvuldige faktore bepaal in hierdie studie wat die mate van uitbranding beïnvloed wat verpleegsters ervaar. Die meeste van die deelnemers (n=56/55%) het ’n afname in werksbevrediging en -verrigting ervaar, (n=52/51%) deelnemers het ervaar dat hul werklading te veel is vir hulle en (n=63/62%) deelnemers het geen erkenning vir hulle werk ontvang nie.

Aanbevelings is gebaseer op voorkomende maatreëls, want om uitbranding te voorkom, is makliker en meer koste-effektief as om uitbranding te probeer oplos as dit alreeds begin het.

Ten slotte, die voorkomende strategieë, vroeë identifisering van werkstres en geskikte intervensies is deurslaggewend om die probleem van uitbranding aan te spreek.

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CHAPTER 1: SCIENTIFIC FOUNDATION OF THE STUDY

1.1 INTRODUCTION

Burnout is one of the psychological challenges that nurses are faced with in the highly stressful and rapidly changing nursing environment (Nalini, 2009:155). The term burnout is conceptualized as a multidimensional syndrome consisting of three components namely: emotional exhaustion, cynicism and reduced professional efficacy (Maslach, Schaufeli & Leiter, 2001:402). Burnout experienced by nurses remains a critical concern which affects both the individual and the institution. The individual's physiologic reactions are provoked by the neuro-endocrine response which can lead to illness. The institution is affected by absenteeism, turnover, lower morale, reduced job performance and loss of productivity which influence the provision of quality nursing care (Jennings, 2008:1).

The nursing profession is worldwide acknowledged as a stressful and emotionally demanding profession. Thus, health care institutions are faced with the challenge to promote quality patient care by supplying an adequate amount of qualified nurses (Koekemoer & Mostert, 2006:87). According to Meyer, Naude & Van Niekerk (2004:218), unit managers should enhance the quality of work life of personnel in order to deliver holistic and quality nursing care.

1.2 RATIONALE

Work-related stress has been regarded as a significant health problem since 1950 and has been identified as an occupational hazard. Work stress in nursing was first assessed by Menzies in 1960 and four sources of anxiety among nurses were identified namely: decision making, patient care, taking responsibility and change. If work-related stress is not addressed it may lead to burnout over a period of time (Jennings, 2008:77).

Freudenberger constructed the term burnout in 1974 to describe psychological symptoms that arise in human service workers as a result of chronic stress. Freudenberger observed a series of symptoms such as irritability, exhaustion and cynicism in volunteers who worked for aid organizations (Kacmaz, 2005:29). The term burnout is used by many, and definitions have varied since the first time applied to human services. The most influential definition of burnout is supplied by Maslach et al. (2001:402), which undertook studies by making use of the Maslach Burnout Inventory for detecting and measuring the severity of burnout.

Furthermore Maslach et al. (2001:413), emphasise that burnout is not a problem related to the individual. According to Maslach's research, burnout is a problem of the social environment in which people work and is a function of how people interact with one another and perform their work within the working environment. Maslach further described the fact that the core of the development of burnout is the mismatch between the nature of the work and the nature of the person who does the work.

Nursing is being defined as a caring profession practised by a person registered with the South African Nursing Council, which supports, cares for and treats a health care user to achieve and maintain health and where it is not possible, cares for a health care user so that he or she lives in comfort and with dignity until death (Nursing Act No 33 of 2005). Nurses play an important role in determining the efficiency, effectiveness and sustainability of the health care system. From 1994 the health care system transformed at a rapid rate while health care professionals were required to keep up with the transformation process. Transformation of the regulation and practice of health care professionals was not as rapid as the transformation of the health care system (Nursing Strategy for South Africa, 2008). The National Human Resources for the Health Plan published in 2006 provided a basis for the development of the Nursing Strategy for South Africa to address the serious challenges faced by nursing. The Nursing Act No 33 of 2005 creates a legislative framework for the review of the scope of practice for the different categories of nurses to ensure that the practice of nurses in South Africa is aligned to the needs of the health care system.

South Africa has a dual health care system namely the public and private sector as shown in figure 1.1. The public sector is responsible for the well-being of 80% of the population, while the private sector is only responsible for the well-being of 20% of the population (Nursing Strategy for South Africa, 2008). In a comparative study conducted by Pillay (2009:17) between private and public sector nurses regarding work satisfaction in South Africa, results have shown that public-sector nurses were dissatisfied with their salary, workload and available resources while private-sector nurses were dissatisfied with career development and salary.

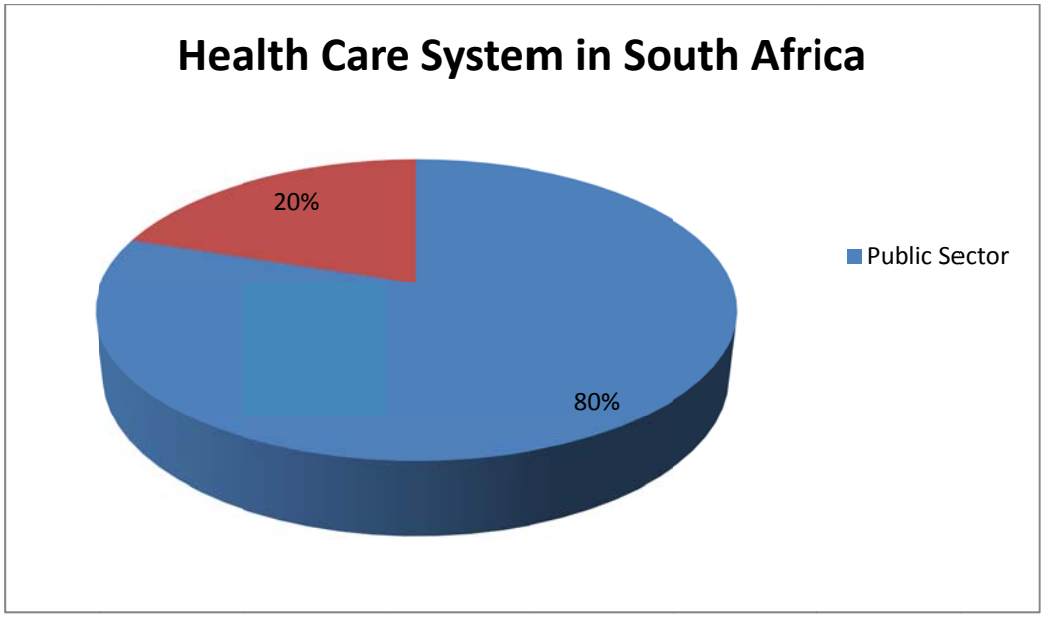

Figure 1.1: Health care systems in South Africa. Illustration by researcher.

Neonatal nurses take care of neonates born either prematurely or at term with complications towards the end of the neonatal period which is 28 days of life. The professional nurse in a neonatal unit is expected to have a sound knowledge base about the normal physiology and pathophysiology of respiration, thermoregulation, nutrition, absorption and growth of a neonate. These aspects are critical as it poses a challenge to the nurse in life threatening situations of the neonate's life. Therapeutic interventions require knowledge of life-sustaining measures and advanced technology that are used. The mother-infant bond is the core context of care and therefore, the nurse practitioner also requires an understanding of the ante-, peri- and postnatal needs of the mother (Coetzee, 2005:75).

Neonatal nurses should be able to cope with the life-death nature in order to support families of the critically ill or dying neonate. Thus, the care of neonates is both physically and psychologically demanding. The researcher observed that work dissatisfaction among nurses leads to high absenteeism and a high sick turnover rate.

The researcher observed in the clinical environment that nurses are indeed faced with a lot of stress in their work environment. Nurses are faced with long working hours and in most cases 12 hour shifts which could extend over a number of days without any break. In addition, nurses have the opportunity to work an increased amount of overtime due to shortage of staff to cover the neonatal unit in order to provide the necessary care. Currently nurses are allowed to work 2-5 days of over-time per month.

According to Hospital Notice (No.9/2007) overtime may not exceed 30% of the employee's salary. Patrick and Lavery (2007:46) conducted a randomized survey among nurses in the

United Kingdom to assess the level of burnout experienced and concluded that the number of hours nurses worked per week were significantly associated with emotional exhaustion and cynicism indicating that the longer hours nurses worked the more likely they are to experience higher levels of emotional exhaustion and cynicism. Furthermore, Patrick and Lavery (2007:47) explains that working overtime is not the problem; the problem is when nurses lose control over their work patterns and feel pressurized to add the extra work demands onto their existing workload.

South African nurses are faced with additional stressors which include budget constraints, shortage of trained staff, inflation, overcrowded hospitals and high patient loads. The nurse/patient ratio determines nurses' workload, job satisfaction and effectiveness of care. According to the Solidarity Research Institute (2009:2), South African hospitals and nurses should be aware that a high patient to nursing ratio will compromise patient care and place unnecessary stress on staff. Nurse/patient ratios are calculated by dividing the number of patients in a hospital at one time by the number of nurses working in the hospital. An intensive care unit requires a higher nurse/patient ratio and more specialized nursing staff (Aiken, Clarke, Sloane, Sochalski & Silber, 2002:1987). The Critical Care Society of South Africa recommends a ratio of 1:1 nurses per patient in an intensive care unit. An audit done in the public and private sector in South Africa confirmed that the nurse: bed ratio is 1:1 nurse per intensive care bed (Scribante & Bhagwanjee, 2007:1316).

According to Nyssen, Hansez, Baele, Lamy & De Keyser (2003:334), South Africa has a shortage of qualified staff to manage intensive care units. Table 1.1 and 1.2 below indicate the quantity of qualified nurses. Table 1.1 shows the number of nurses qualified in neonatal intensive care nursing for the period 2009-2010. A total of 170 female and 174 male nurses were qualified and registered with the South African Nursing Council during 2009 and 2010 respectively. Table 1.2 shows that 713 female and 734 male nurses were qualified and registered in Advance Midwifery and Neonatal Sciences for the period 2009 and 2010 respectively with the South African Nursing Council.

Table 1.1: Certificate in Neonatal Intensive Care Nursing (SANC, 2010)

Year of study	2009	2010
Number of persons qualified(female)	168	172
Number of persons qualified (male)	2	2

Table 1.2: Advanced midwifery and Neonatal Nursing Science (SANC, 2010)

Year of study	2009	2010
Number of persons qualified(female)	710	730
Number of persons qualified (male)	3	4

Although burnout is a concern to nursing it is not a recognized disorder in the Diagnostic and Statistical Manual of Mental Disorders but recognized in the International Classification of Diseases 10 in the Adjustment Disorder in the unspecified subtype, which is used for maladaptive response to stressors (Kraft, 2006:29).

Job satisfaction, emotional support, and self-care play a crucial role in the prevention of burnout in staff. It is both the individual nurse's and administrative leader's responsibility to implement strategies to prevent burnout in nurses which may lead to improved retention and recruitment rates in order to deliver safe and quality neonatal nursing care (Braithwaite, 2008:343).

During the mid-1990's, Danish unions observed an increased number of human service workers taking long-term sick leave or retiring early as a consequence of burnout symptoms. A prospective intervention study with a six year follow-up from 1999 to 2005 was done. The results confirmed burnout and predict 21% more sickness absence days and 9% absence spells per year at a three year follow-up. Thus, an increase in burnout predicts an increase in sickness absence, and a decrease in burnout predicts a decrease in sickness absence (Borritz, Bültmann, Rugulies, Christensen, Villadsen & Kristensen, 2005:1017).

1.3 SIGNIFICANCE OF THE STUDY

By completing this study it will provide scientific evidence about factors influencing the development of burnout thus enabling nurse managers, nursing education and policy makers in health to introduce preventative measures to counteract burnout. Through the completion of this study, input and experiences given by nurses working in the neonatal intensive care unit can be of great value in order to make management aware of stressors in the work environment and to attend to these stressors in order to decrease absenteeism among nurses and increase retention of nurses which will lead to a quality enhancement of the work environment.

1.4 PROBLEM STATEMENT

As described above nurses working in neonatal intensive care units are particularly vulnerable to the harmful effects of burnout. Advances in technology and changes in healthcare procedures and delivery in these units have added new responsibilities to the

nurse's traditional role as a caregiver and the patient's advocate. Consequently, it has become imperative to determine scientifically the effect of these factors on individual nurses.

1.5 RESEARCH QUESTION

The research question which guided this study was:

> 'What are the factors influencing the degree of burnout experienced by nurses working in neonatal intensive care units?"

1.6 RESEARCH GOAL

The goal of the study was to investigate the factors that influence the degree of burnout experienced by nurses working in neonatal intensive care units.

1.7 OBJECTIVES

The specific objectives set for the study were as follows:

- To determine the degree of burnout of participants
- To determine which of the following factors influenced the degree of burnout experienced by nurses working in neonatal intensive care units:
  - Physical factors
  - Psychological factors
  - Social factors
  - Occupational factors

A brief description of the methodology applied in this study is described in chapter 1 and a more in depth discussion described in chapter 3.

A quantitative approach with a descriptive, exploratory design was applied to investigate the factors experienced by nurses working in neonatal intensive care units influencing burnout. A questionnaire was used based on the objectives of the study. The questionnaire was divided into three sections, namely section A emphasized demographical data from participants, the Maslach Burnout Inventory–General Survey (MBI-GS) was adapted (Annexure B) to form section B of the questionnaire which determined the degree of burnout and section C was subdivided into 4 sections namely physical, psychological, social and occupational factors. A pilot study was conducted to test the suitability of the questionnaire and the feasibility of the study. The questionnaire was assessed by experts in the research and neonatal field for content and face validity.

The data in this study was analyzed with the help of a qualified statistician, using computerized data analysis software system, namely STATISTICA Version 9.2. On

completion of the statistical analysis the data was interpreted and presented in frequencies, tables and histograms.

1.9 ETHICAL CONSIDERATIONS

Ethics is defined as a set of moral principles which guide correct conduct. (De Vos, Strydom, Fouché & Delport, 2007:57). Ethical considerations were applied in the research study. According to Burns and Grove (2009:184), ethical issues should be taken into consideration during the planning and implementation of research. The following principles were implemented in the research study to address ethical issues: autonomy, non-maleficence and beneficence.

1.9.1 Autonomy

The principle of autonomy means that participants should have a choice of participating in a study or not, as long as they are treated as autonomous agents (Burns & Grove, 2009:196). Nurses participated voluntary in this study and the researcher ensured that participants were not influenced by other participants. Confidentiality was managed by the researcher by not linking participants to the results of the study. Anonymity of participants was protected by questionnaires being numbered and written, informed consent was obtained separately from the questionnaire in order to prevent results from being linked to the participant's name.

1.9.2 Non- maleficence

Non-maleficence refers to the duty of the researcher to protect participants against any form of harm (De Vos et al., 2007:58). Participants were informed regarding the potential risks in which a question may lead to certain emotions and were offered to withdraw from the study if they desired to do so without any repercussions or be referred for counselling.

1.9.3 Beneficence

The principle of beneficence refers to the duty of the researcher to do good and not harm (Burns & Grove, 2009:689). Participants will benefit indirectly for taking part in the study which may lead to possible change in their institution.

1.10 CONSENT FROM INSTITUTIONS

Consent from the Health Research Ethics Committee of the Faculty of Health Sciences, Stellenbosch University (Annexure G), as well as the Head of the hospitals where the study was conducted (Annexure F) was obtained before the study was performed.

1.11 INFORMED CONSENT (ANNEXURE D)

According to Burns and Grove (2009:201), informed consent includes four elements namely: disclosure of essential information, comprehension of the information by the participant,

competence of the participant to give consent and voluntary consent from the participants to take part in the study. In this study written, informed consent was obtained from each participant.

The purpose, objectives and ethical considerations of the study was explained to each individual, prior to signing consent to participate in the study. The explanation was given in English, the language of choice. The participants could withdraw from the research study at any time during the course of the research, without having to render an explanation. The participant was not victimized in any way for taking part or not taking part in the study. They were also not cohersed to participate in the study. Participants were referred for counselling if some of the questions asked lead to the evoking of certain emotions.

1.12 OPERATIONAL DEFINITIONS

Neonatal intensive care unit: A unit that provides specialized patient centered care and treatment to neonates by a professional team. (Merenstein & Gardner, 2006:1).

Nurse: The Nursing Act No.33 of 2005 defines a nurse as a person registered with the South African Nursing Council which allows him/her to practise in a specific category for example as a professional nurse, staff nurse or auxiliary nurse.

Professional Nurse: A person who is competent and qualified to practise nursing independently to the prescribed level and who is capable to assume responsibility and accountability according to the Nursing Act 2005 (No.33 of 2005).

Enrolled nurse: A person educated to practise basic nursing to the level prescribed (Nursing Act No.50 of 1978).

Auxiliary Nurse: A person educated to provide elementary nursing care to the level prescribed according to the Nursing Act 2005 (Act No.33 of 2005).

Neonate: A newborn until the age of 28 days after birth. (Littleton & Engebretson, 2002:546).

Burnout: The term burnout is conceptualized as a multidimensional syndrome consisting of three components namely: emotional exhaustion, cynicism and reduced professional efficacy (Maslach et al., 2001:402).

Holism: Holism refers to looking at the whole system rather than individual components that is physical, biological, chemical, social, economic, mental, and linguistic (Potter & Perry 2007:5).

1.13 STUDY LAYOUT

Chapter 1: In this chapter the scientific foundation of the study was discussed including the rationale, problem statement, research question, aim and objectives and a brief overview of the research methodology applied, as well as the ethical considerations.

Chapter 2: A literature review of the effects of burnout experienced by nurses and the conceptual theoretical framework are described in this chapter.

Chapter 3: A more in depth description of the research methodology is discussed in this chapter.

Chapter 4: The data analysis, interpretation and discussion applicable to the analyses which are presented are discussed in this chapter.

Chapter 5: In this chapter the conclusion and recommendations, based on the scientific evidence obtained in this study are discussed.

1.14 SUMMARY

Burnout is one of the psychological challenges that nurses are faced with in the highly stressful and rapidly changing nursing environment (Nalini, 2009:155). Burnout experienced by nurses remains a critical concern which affects both the individual and the institution (Jennings, 2008:1). According to Koekemoer and Mostert (2006:88), South African nurses are faced with additional stressors which include budget constraints, shortage of trained staff, inflation, overcrowded hospitals and high patient loads.

1.15 CONCLUSION

In this chapter, the rationale, research goals, objectives, as well as a brief description of the methodology applied in the research study were described.

The following chapter presents a discussion of the literature reviewed by the researcher and the theoretical framework.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, an overview of the most recent and relevant literature about the effects of burnout which nurses experience are discussed in order to obtain scientific information. A literature review is an organized written presentation of what has been published on a topic by scholars and includes a presentation of research conducted in your selected field of study (Burns & Grove, 2009:92). According to Brink, Van der Walt & Van Rensburg (2006:67), the purpose of the literature review is to place the study in context of the general body of knowledge, which minimizes the possibility of unintentional duplication and increases the probability that the study makes a valuable contribution.

Burnout rates among nurses are higher than in other health professionals (Aiken, Clarke, Sloane, Sochalski, Busse, Clarke, Giovannetti, Hunt, Rafferty & Shamian, 2001:46). This is also confirmed in a study of burnout in various health professionals in Nigeria. Participants included in the study were nurses, nursing assistants, doctors, pharmacists and social workers. Findings of the study indicated that nurses consistently reported higher scores on all measures of burnout compared to other health professionals (Olley, 2003:297). Furthermore, Browning, Thomas, Greenberg & Rolnaik (2007:149), adds that the prevalence of burnout among nurses who work in specialty areas such as oncology, mental health, emergency medicine and critical care are higher.

Thus, nurses are especially vulnerable to the development of burnout due to unique factors in their work environment which creates a great concern for the following reasons:

- Nurses represent the greater portion of the health care system, with only 231086 nurses currently in South Africa (SANC, 2010). In 2007 the South African Nursing Council identified a shortage of qualified nurses. DENOSA also indicated that there is a shortage of nurses, stating that South Africa is not producing enough nurses to deal with its health care (Wildschut & Mqolozana, 2008:12).
- Nurses spend an increasing number of hours each day involved in patient care especially with the advent of extended shifts and overtime. During working hours nurses engage in a lot of interpersonal relationships which are subjected to high physical and emotional demands leading to fatigue and insufficient energy to cope with stress (Rogers, Hwang, Scott, Aiken & Dinges, 2004:204).
- Burnout and job dissatisfaction have been strongly associated with nursing turnover which leads to nursing shortages (Auerbach, Buerhaus & Staiger, 2007:180).
- Inadequate nursing staff levels have been significantly associated with nursing errors and poor patient outcomes (Ludwick & Silva, 2003:9).

- Difficulties in the nurse-physician relationship have been identified with patient dissatisfaction and emotional exhaustion in nurses (Rosenstein, 2002:26).

According to Maslach et al. (2001:419), the most efficient way to address burnout is through the combination of organizational change and individual training. Organizations address burnout through their own management development and often resort to external sources to assist them, for example by establishing new policies and practices supporting a quality work life. Furthermore, Pillay (2009:15) discussed how health managers should improve the work environment and address factors that affect work satisfaction, which will lead to the retention of nurses in South Africa and the provision of a context congruent with the aspirations and values of nurses which leads to satisfied nurses and consequently a positive effect on individual, organizational and health outcomes.

The literature review focused on the following topics:

- Description of burnout
- Signs and symptoms of burnout
- Development of burnout
- Maslach burnout inventory
- Causes of burnout
- Distinction between burnout and other clinical entities
- Conceptual theoretical framework

2.2 DESCRIPTION OF BURNOUT

The concept of burnout was first introduced and applied to humans by the psychiatrist Freudenberger in 1974 that used the term to describe the status of overworked volunteers in free mental clinics. Freudenberger compared the loss of idealism in the volunteers to a building, which once was a vital structure, that had burnt out and he defined burnout as the progressive loss of idealism, energy, and purpose experienced by professional people in the human services institutions as a result of their work conditions. Freudenberger described the consequences of burnout as having either physical or behavioural outcomes and observed that individuals that work too much work long hours and intensively without sufficient rest were more prone to burnout (Kacmaz, 2005:29).

Maslach and Jackson (as cited in Hogan and McKnight 2007:118), defined burnout in 1981 as a blanket term which is used to describe a syndrome of emotional exhaustion and cynicism in response to stressors, but in 2003 Maslach refined the definition of burnout as a prolonged response to chronic emotional and interpersonal work stressors.

In 2000 Faber criticized most researchers that have described burnout as a single phenomenon and a syndrome with consistent etiology and symptoms in all individuals. In

contrast Faber (as cited in Montero-Marin et al. 2011:2) described burnout as an experience during which individuals are aware of a considerable discrepancy between their contributions and rewards and between their invested efforts and the results obtained at work. Faber proposed differentiation of the burnout syndrome based on the description of three clinical profiles of burnout namely frenetic, under challenged and worn-out as a result of different ways of responding to stress in the work environment.

Maslach et al. (2001:402), conceptualized burnout as a multidimensional syndrome caused by prolonged exposure to chronic personal and interpersonal stressors at work as determined by three components namely:

- Emotional exhaustion
- Cynicism
- Reduced professional efficacy

Maslach explains emotional exhaustion as a feeling of not being able to offer anymore of oneself at an emotional level. Cynicism reflects indifferences or a distant attitude towards the individual's work and professional efficacy which involves social and non- social accomplishments at work (Maslach et al., 2001:403).

According to Kristensen, Borritz, Villadsen & Christensen (2005:192), fatigue and exhaustion is the core of burnout and is divided into three different types namely: personal, work–related and client-related burnout. Personal burnout is defined as the degree of psychological and physical fatigue and emotional exhaustion experienced by an individual. Work-related burnout refers to the degree of psychological and physical fatigue and emotional exhaustion that is perceived by an individual related to work. Client-related burnout is the degree of psychological and physical fatigue and emotional exhaustion, which is perceived by an individual as related to work.

2.3 SIGNS AND SYMPTOMS OF BURNOUT

Scaufeli and Enzman conducted various uncontrolled clinical observations and interviews in the year 1998 and obtained 132 possible symptoms of burnout. According to these observers burnout is not only experienced on a personal level, but also on interpersonal and organizational levels each with 5 types of signals namely: affective, cognitive, physical, behavioural and motivational (as citied in Mbuthia, 2009:47). Table 2.1 shows the classification of burnout symptoms.

Table 2.1: Symptoms of burnout (Adapted from Mbuthia, 2009:48)

PERSONAL LEVEL				
AFFECTIVE	**COGNITIVE**	**PHYSICAL**	**BEHAVIOURAL**	**MOTIVATIONAL**
Depressed mood, tearfulness, emotional exhaustion, changing moods, decreased emotional control, undefined fears, increased tension, anxiety	Helplessness, loss of meaning and hope, fear of "going crazy", feelings of powerlessness, sense of failure, feelings of insufficiency, poor self-esteem, guilt, suicidal ideas, inability to concentrate, forgetfulness, difficulty with complex tasks, rigidity and schematic thinking, difficulties in decision making, intellectualisation, loneliness	Headaches, dizziness, restlessness nervous tics, muscle pains, sexual problems, sleep disturbances, sudden loss or gains of weight, shortness of breath, increased pre-menstrual tension, missed menstrual cycles,chronic fatigue,hyperventilation, gastrointestinal disorders, coronary disease	Hyperactivity, impulsivity, procrastination, increased overconsumption of stimulants, overrating and underrating, high risk-taking behaviours, increased accidents, abandonment of recreational activities, compulsive complaining	Loss of zeal, loss of idealism, disillusionment, resignation, disappointment, boredom, demoralisation
INTERPERSONAL				
Irritability, oversensitivity, coolness and lack of emotion, lessened emotional empathy with recipients, increased anger	Cynical and dehumanising perception of recipients, negativism with respect to recipients, lessened cognitive empathy with recipients, stereotyping of recipients, labelling recipients in derogatory ways, "blaming the victim", air of grandiosity, air of righteousness, "martyrdom", hostility, suspicion, projection, paranoia		Aggressiveness towards recipients, marital and family conflicts, social isolation and withdrawal, detachment with respect to recipients, expression of hopelessness, helplessness and meaninglessness towards recipients, jealousy, compartmentalization	Loss of interest, discouragement, indifference with respect to recipients, using recipients to meet personal and social needs, overinvolvement

ORGANISATIONAL				
AFFECTIVE	**COGNITIVE**	**PHYSICAL**	**BEHAVIOURAL**	**MOTIVATIONAL**
Job dissatisfaction	Cynicism about work role, feelings of not being appreciated, distrust in management, peers and supervisors		Reduced effectiveness, poor work per-formance, decline in productivity and turnover, increased sick leave, absenteeism, resistance to change, being over -dependent on supervisors, “going by the book”, increased number of accidents, inability to organise	Loss of work motivation, resistance to go to work, dampening of work initiative, low morale

Maslach (2003:50) divided the signs and symptoms of burnout into only 3 categories, namely physical, psychological and interpersonal/social. The signs and symptoms of burnout are subtle at first but these progresses as time passes. Despite the classification of burnout symptoms into five different categories by Scaufeli and Enzman and Maslach’s division of burnout symptoms into three categories, there are similarities between the symptoms. For example physical symptoms included in both classifications are frequent headaches, gastrointestinal disorders, respiratory illness and change in appetite and sleeping habits. Maslach added hypertension, lack of self-care and a lowered immunity to the list while Scaufeli and Enzman added restlessness, nervous tics, sexual problems and coronary diseases to the list of physical symptoms. Similarities between psychological symptoms of Maslach and the affective symptoms of Scaufeli and Enzman include anger, depression, anxiety, changing moods and emotional detachment. Maslach added frustration, guilt, addictive behaviour, loss of idealism, lack of drive, inability to concentrate, decreased coping abilities and being withdrawn, to the psychological list of symptoms. Similarities between Maslach’s division of interpersonal/social symptoms and Scaufeli and Enzman’s interpersonal level of symptoms are cynicism and marital disfunction. Maslach added the inability to communicate and neglecting family and social obligations to the list of symptoms.

Burnout is not a recognized disorder in the Diagnostic and Statistical Manual of Mental Disorders (Kraft, 2006:29), although burnout is recognized in the International Classification of Diseases 10 in the Adjustment Disorder in the unspecified subtype, which is used for

maladaptive response to stressors. Mental adjustment disorders are characterized by "the development of clinically significant emotional or behavioural symptoms in response to an identifiable psychosocial stressor or stressors. The symptoms must develop within 3 months of the onset of the stressor (DSM IV –TR, 2000:680).

2.4 DEVELOPMENT OF BURNOUT

Burnout develops gradually over time. According to Demerouti, Bakker, Nachreiner & Scaufeli (2001:502), the development of burnout follows two processes. The first process is related to job demands which leads to overtaxing and consequently to exhaustion. The second process, which is the lack of job resources leads to disengagement of work. If job demands are not reached by the available resources, withdrawal behaviour from work occurs. Withdrawal behaviour from work leads to disengagement which includes distancing oneself from work and experiencing negative attitudes towards work. The reduced personal accomplishment scale of burnout is not seen as a core part of burnout (Demerouti et al., 2001:501).

Although most researchers agree that burnout follows a process of stages, every researcher presumes a different stage order. According to Burisch (2006:10), the basic aspects of the burnout process are resumed in the following four stages:

Stage 1: High workload, high level of job stress, high job expectations

- Job demands exceed job resources
- The job does not fulfil one's expectations

Stage 2: Physical / emotional exhaustion

- Chronic exhaustion; even higher energy investment in order to execute all job tasks, sleep disturbances, susceptibility to headaches and other physical pain
- Emotional exhaustion; fatigue even when work is just a thought in the mind

Stage 3: Cynicism

- Apathy, depression, boredom
- A negative attitude towards the job, the colleagues and patients
- Withdrawal from the job, the problems; a reduced work effort

Stage 4: Despair, Helplessness

- Aversion to oneself, to other people, to everything
- Feelings of guilt and insufficiency

Psychologist Herbert Freudenberger and Gail North divided the burnout process into twelve different phases, which not necessarily follows in sequence. Many individuals skip certain phases; others find them in several stages at one time. The length of each phase varies from individual to individual (Kraft, 2006:31).

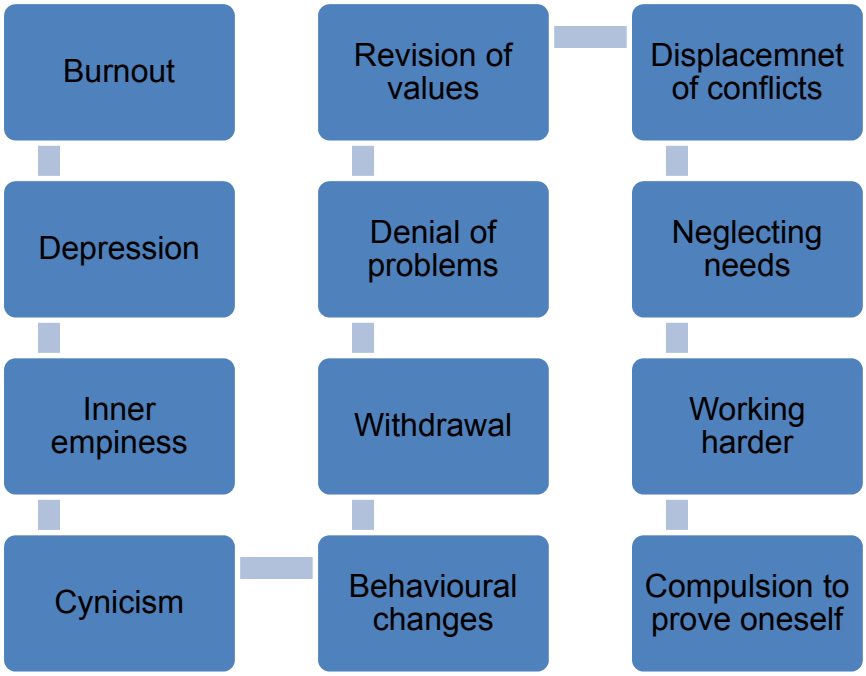

Figure 2.1: Phases of burnout. Illustration by researcher

Kraft (2006:31) describes the following phases (figure 2.1) as follows:

Phase 1: The compulsion to prove oneself

The individual initially embarks on his/her career with high levels of energy, enthusiasm and excessive ambition. The desire to prove oneself at work turns into determination and compulsion in order to show colleagues and themselves that they are doing an excellent job.

Phase 2: Working harder

In phase two high personal expectations are established to prove oneself. In order to meet these high personal expectations, the individual shifts his/her main focus on work and takes on more work. The individual becomes obsessed to do everything him/herself which will demonstrate that he/she is irreplaceable.

Phase 3: Neglecting needs

The individual devotes all available time to work, necessities such as friends, family, sleeping and eating become unimportant. Individuals believe that these sacrifices prove their good performance.

Phase 4: Displacement of conflicts

In phase four the individual realizes that something is not right but cannot identify the sources of the problem. When dealing with the causes of the problem, distress may lead to a crisis. Physical symptoms often first emerge in this phase.

Phase 5: Revision of values

During phase five value systems are revised. Isolation, conflict avoidance and denial of basic physical needs change the individual's perception. The standard for evaluation of self-worth is work.

Phase 6: Denial of emerging problems

Intolerance develops in this phase, perceiving their colleagues as lazy, demanding or undisciplined. Social interaction becomes unbearable, while cynicism and aggression become more apparent. Individuals view their increasing problems as a result of time pressure.

Phase 7: Withdrawal

Individuals reduce social interaction to a minimum and become isolated. Feelings of hopelessness and no direction are present. In addition they work obsessively. Some seek release through the use of alcohol or drugs.

Phase 8: Obvious behavioural changes

Behavioural changes are observed by friends, family and colleagues. The individual feels increasingly worthless and becomes shy, fearful and apathetic.

Phase 9: Cynicism

The individual loses contact and views her/himself as not valuable and no longer perceives her/his own needs. In this phase the individual's perspective of time narrows down to the present and life become a series of mechanical functions.

Phase 10: Inner emptiness

In phase ten the feeling of inner emptiness expands relentlessly. To overcome this feeling, overreactions such as exaggerated sexuality, overeating, and drugs or alcohol usually emerge.

Phase 11: Depression

During this phase burnout leads to depression. Symptoms of depression may manifest itself in the form of agitation and apathy.

Phase 12: Burnout

Burnout victims have suicidal thoughts and ultimately experience a total mental and physical collapse. In the final phase of the burnout cycle it is of utmost importance that the individual receives medical attention.

2.5 MASLACH BURNOUT INVENTORY

The Maslach Burnout Inventory was developed in 1981 by Maslach and Jackson. The Inventory was originally developed for the assessment of burnout in human service professionals namely the MBI-Human Services Survey (MBI-HSS).

Two additional versions have been developed:

- MBI-Educators Survey (MBI-ES): an adaption of the original instrument for the use with educators
- MBI-General Survey (MBI-GS): a newer version for the use in other occupations (Maslach et al.2001:402).

The Maslach Burnout Inventory addresses the three components of burnout syndrome with 22 items in three subscales:

- Emotional exhaustion: nine items which measure feelings of being emotionally overextended and exhausted by one's work
- Cynicism: five items which measure an unfeeling and impersonal response to the recipients of one's services, care treatment, or instruction
- Personal accomplishment: eight items which measure feelings of competence and successful achievement in one's work (Maslach et al., 2001:402).

Each item lists a work-related feeling and respondents indicate how often they felt that way about their job on a 7-point Likert scale. Response options for the items were 0 ‘never’ through to6 ‘every day’. Responses are added to form a score for each subscale, thus giving each participant three scores for the three components of burnout.

2.6 CAUSES OF BURNOUT

Research by Pontec, Toullic, Papazain, Barnes & Timsit (2007:701) have demonstrated a positive correlation between individual and situational factors and the occurrence of burnout in nurses who work in critical care units.

2.6.1 Situational factors

Situational factors refer to the intrinsic factors in the work environment of the nurse. Maslach et al. (2001:407), refer to these factors as job, occupation and the organizational characteristics in which nurses perform their functions. According to Maslach et al. (2001:407), job characteristics refer to quantitative and qualitative demands of a particular job and the absence or otherwise of the needed resources to perform the job. Occupational characteristics reflect on the demands and expectations of a particular occupation, while organizational characteristics focus on the values implicit in the organizational processes and structures of an occupation (Maslach et al., 2001:408).

2.6.1.1 Workload

According to Maslach et al. (2001:414), workload is directly related to the exhaustion aspect of burnout. A mismatch in workload is usually due to an excessive workload where too many demands lead to exhausting the individual's energy (Maslach et al., 2001:414). In studies in which the Maslach Burnout Inventory has been used to measure burnout, inadequate staffing were positively correlated with high levels of emotional exhaustion. A cross sectional study of 820 nurses from 20 urban hospitals concluded that a poor work environment was associated with a greater likelihood of high emotional exhaustion and cynicism scores in the Maslach burnout inventory (Vahey, Aiken, Sloane, Clarke & Vargas, 2004: 62). Increased workload is related to other elements besides actual patient volume, including extended shifts, overtime (often mandatory), many consecutive days of work, rotating shifts, weekend work, and on-call requirements. The number of nurses who work 12-hour shifts and work overtime has increased; approximately 25% to 56% of nurses work 12 hours or more per day. Working long hours have two serious consequences namely fatigue which are associated with increased risk of errors and the intention to leave the profession (Rogers et al., 2004:209).

2.6.1.2 Control

A sense of control is important to nurses. Furthermore, job satisfaction is greater when nurses feel they have some control over how they perform their job (Hoffman & Scott, 2003:336). Unfortunately the sense of control appears to be lacking in some nurses. Maslach et al. (2001:413) indicated that when people do not have control over their jobs, it prevents them from addressing problems that they identify and they cannot balance their interest with those of the organization.

2.6.1.3 Insufficient reward

Insufficient reward relates to several aspects such as recognition of contributions, adequate salary, and opportunities for advancement. Being fairly rewarded and recognized for

contributions are important to nurses, and those who perceive respect and recognition are more likely to be satisfied with their job and to have a lower occurrence of burnout (Hoffman & Scott, 2003:339). According to Mafalo (2003:39), low salaries, poor working conditions and failure to recognize the value of nurses are associated with the migrating of nurses. Pillay (2009:15) demonstrated in his study among South African nurses that nurses in the private sector and public sector are both dissatisfied with their salary and career development.

2.6.1.4 Absence of support

Research has revealed the importance of social support in coping with job, stress and preventing emotional exhaustion (Maslach et al., 2001:415). A lack of peer cohesion, difficulties with nurse-physician interactions, and inadequate administrative and supervisor support have been associated with high levels of burnout, especially on the emotional and cynicism subscales (Raiger, 2005:72).

2.6.1.5 Lack of fairness

Fairness communicates respect and confirms people's self-worth. Unfairness can occur when there is inequity of workload or pay, when there is cheating, or when evaluations and promotions are handled in appropriately. A lack of fairness exacerbates burnout in two ways namely it leads to a sense of depersonalization in the workplace and the experience of unfair treatment is emotional and upsetting (Maslach, et al., 2001:415).

2.6.1.6 Conflict in values

According to Maslach et al. (2001:415), there may be a mismatch in an individual's aspirations for his/her career and the values of the institution. Flynn and Aiken (2002:70), investigated whether nurses from the United States and other countries value attributes in the organization that support a professional nursing practice. The value nurses found important to their job satisfaction included nurse autonomy, control over the practice environment, and their relationships with physicians.

2.6.2 Individual factors

2.6.2.1 Age

According to Maslach et al. (2001:409), age is consistently related to burnout and confounded with work experience, thus burnout appears to be more of a risk earlier in an individual's career. Elkonin and van der Vyver (2011:4) conducted a study to explore and describe work-related positive and negative emotions experienced by intensive care nurses working in private health care facilities in East London which confirmed that age is inversely

correlated with burnout, with younger workers being more susceptible to burnout. Furthermore Patrick and Lavery (2007:46), did a randomized survey in a sample of nurses in the United Kingdom to assess levels of burnout and to identify individual and work characteristics that contribute to burnout and concluded in his study that age was negatively associated with emotional exhaustion and cynicism indicating that nurses' age increased their levels of emotional exhaustion and depersonalization decreased.

2.6.2.2 Gender

Gender has not been strongly associated with the occurrence of burnout. The only consistent difference is that males often score higher on cynicism and females score slightly higher on emotional exhaustion (Maslach et al., 2001:410).

2.6.2.3 Family status

Family status plays an important role in burnout; rates of burnout are higher among single workers and workers with no children than among married workers and those with children (Maslach et al., 2001:410). Gulalp, Karcioglu, Sari & Koseoglu (2008:34) performed a study in nursing personnel working in the emergency departments in Turkey. Results show that married participants had higher levels of reduced personal accomplishment and lower levels of emotional exhaustion and cynicism compared to single participants.

2.6.2.4 Educational qualifications

According to Maslach et al. (2001:410), educational qualifications play a role in the development of burnout; higher levels of burnout are experienced by workers with higher levels of education. Patrick and Lavery (2007:46), found in a randomized survey of a sample of Victorian nurses that nurses who gained their qualification at a university experienced higher levels of emotional exhaustion and cynicism than hospital trained nurses. Elkonin and van der Vyver (2011:4) conducted a study with thirty nurses working in intensive care units in East London, South Africa. Of the sample of nurses participants (n=26/86%) had a basic diploma in nursing, while (n=4/13.3%) participants had a degree. Furthermore, (n=15/50%) participants with an additional intensive care qualification, experienced higher levels of emotional exhaustion, which can be attributed to the nature and extent of care required by patients in intensive care units.

2.6.2.5 Personality Traits

Maslach et al. (2001:410) noted that characteristics such as low self-esteem or confidence, failure to recognize personal limits, need of approval, overachieving, need for autonomy, impatience, intolerance, and empathy increased susceptibility to burnout.

Several personality traits have been positively correlated with the risk of developing burnout. In terms of the big five personalities, neurosis and conscientiousness demonstrate the highest correlations to the development of burnout (Maslach et al., 2001:411). Neurosis is defined in these theories in terms of trait anxiety, hostility, depression, self-consciousness and vulnerability, and neurotic individuals are regarded as those who are emotionally unstable and prone to psychological distress. Conscientiousness refers to setting a high value on self-discipline, dutifulness, visible achievements and carefully planned rather than spontaneous behaviour.

Furthermore, Keidel (2002:201) added that extreme conscientiousness, perfectionism and self-giving, and a Type D personality also increases the susceptibility to burnout.

2.7 DISTINCTION BETWEEN BURNOUT AND CLINICAL ENTITIES

In order to identify burnout signs and symptoms, care should be taken to distinguish burnout from other conditions such as compassion fatigue, depression and stress.

2.7.1 Burnout and compassion fatigue

Figley (2002:1433) describes burnout and compassion fatigue as responses of caregivers who have to deal with difficult patients in trying circumstances over a long period of time without adequate resources. There is an overlap between burnout and compassion fatigue where both share the same symptoms and both influence the individual's health and relationships, as well as their workplace in the form of low morale, absenteeism and decreased motivation and apathy (Portnoy, 2011:47)

According to Pfifferling and Gilley (2000:39), the difference between burnout and compassion fatigue is that burnout leads to emotional withdrawal and diminished empathy, whereas individuals with compassion fatigue try to continue with their work and feel a sense of failure if they do not continue. In contrast to burnout, compassion fatigue has a sudden onset and is a natural response to an immediate or specific situation resulting from caring or helping traumatized or suffering individuals. Burnout by contrast is a gradual process which worsens as a result of emotional exhaustion (Benson & Magraith, 2005:497).

In addition to the burnout symptoms, an individual who experiences compassion fatigue may feel a loss of meaning and hope and can have reactions associated with Post Traumatic Stress Disorder (PTSD) namely: anxiety, difficulty concentrating, being jumpy or easily startled, irritability, difficulty sleeping, excessive emotional numbing and images of another's traumatic material (Portnoy, 2011:47).

2.7.2 Burnout and depression

Depression and burnout may have a similar clinical presentation, and symptoms of depression can be associated with burnout. Depression is more prone among individuals who had a recent loss or personal/family history of depression whereas burnout is related to the work environment (Brenninkmeyer, Vanyperen & Buunk, 2001:837). Symptoms distinguishing depression from burnout are shown in Table 2.2:

Table 2.2: Symptoms distinguishing depression from burnout adapted from Brenninkmeyer et al. (2001:878)

Symptoms distinguishing depression from burnout	
Depression	**Burnout**
Inability to find pleasure in once pleasurable activities	Ability to enjoy non work activities
Anger directed internally	Anger directed externally
Unrealistic feelings of guilt	No (or realistic) guilt
Significantly ambivalent	Somewhat ambivalent
More dependent	More independent
Avoids conflicts	Interpersonal conflicts increase
Overeating, under eating	Appetite unaffected
Wake up early	Difficulty falling asleep

According to Lacovides, Fountanlakis, Kaprinis & Kaprinis (2003:209), depression is characterized by depressed moods, an inability to derive pleasure from anything at all, excessive weight losses or gains, insomnia or hypersomnia, psychomotoric agitation or retardation, fatigue and loss of energy, tormenting feelings of insufficiency and guilt, indecisiveness or an inability to concentrate, paralysis of the will, an obsessive interest in death and dying, and persistent suicidal ideations. On the other hand, symptoms associated with burnout, are mental and emotional exhaustion, and a reduced professional accomplishment. Symptoms such as fatigue, emotional exhaustion and feelings of depression are regarded as the most frequently recurring symptoms of burnout (Lacovides et al, 2003:209).

2.7.3 Burnout and stress

Job stress is a generic term that refers to a temporary adaptation process that occurs at work and is accompanied by certain mental and physical symptoms, while the burnout syndrome is the end result of prolonged exposure to various stressors that originate in the workplace (Carayon, 2006:219).According to van der Walt (2011:5), stress develops when there are too many pressures that demand too much of an individual physically and mentally, on the other hand burnout individuals feel empty and not motivated. Stress is characterized by overengagement, overactive emotions, hyperactivity, loss of energy and leads to anxiety disorders. Burnout is characterized by disengagement, blunted emotions, helplessness and hopelessness, loss of motivation and leads to detachment and depression.

2.8 CONCEPTUAL THEORETICAL FRAMEWORK

2.8.1 Job demands and resources (JD-R model)

The first premise is that every occupation has its own specific risk factors associated with job stress but can be classified into two categories namely job demands and job resources (Demerouti et al., 2001:499). Job demands refer to the physical, psychological, social or organizational aspects of the job that require sustained physical and / or psychological (cognitive and emotional) effort and therefore, are associated with physiological and psychological costs. Examples are a high workload, an unfavorable physical environment, time pressure, demands of shift work and emotional demanding interactions with patients (Bakker & Demerouti, 2007:312).

Job resources refer to the physical, psychological, social or organizational aspects that

- assist in achieving work goals
- reduce the severity of job demands and the associated physiological and psychological costs associated with it
- stimulate personal growth, learning and development

Job resources may be

- organizational in nature (salary, career opportunities and job security)
- interpersonal and social relations (team climate, supervisor and colleagues support
- the organization of work (role clarity, participative decision making)
- the level of the task (skill variety, task identity, task significance, autonomy, performance feedback

(Bakker & Demerouti, 2007:312).

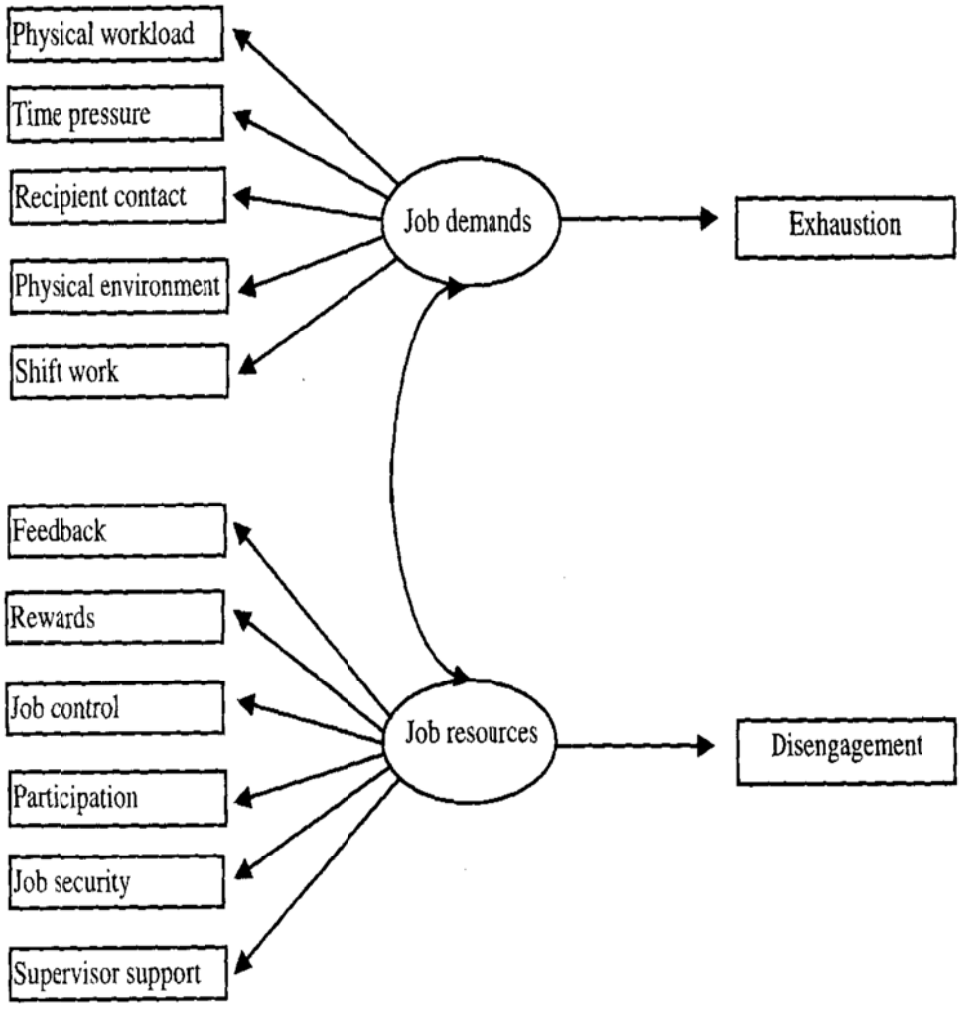

Figure 2.2: The Job Demands-Resource model of burnout, adapted from Demerouti et al., (2001:502).

The second premise of the JD-R model is that two different psychological processes play a role in the development of job strain and motivation (Figure 2.2). In the first process the job demands exhaust the individual's mental, physical and emotional resources which contribute to the development of burnout (Bakker & Demerouti, 2007:313).

The second process is motivational in nature which assumes that job resources have motivational potential that can lead to high work engagement, low cynicism at excellent performance. Job resources may play an intrinsic motivational role that fosters growth, learning and development of employees or an extrinsic motivational role because they can be used as instruments in achieving work goals (Bakker & Demerouti, 2007:314). A lack of resources complicates the meeting of job demands which lead to withdrawal behaviour and disengagement from work (Demerouti et al., 2001: 502).

In addition, the JD-R model proposes that interaction between job demands and job resources create either unacceptable levels of job strain or desirable levels of motivation. Furthermore, adequate job resources can protect the employee from the impact of job demands on job strain and burnout (Bakker & Demerouti, 2007:314).

2.8.2 Job- person fit model

Maslach et al. (2001:413), formulated a job-person fit model that focuses on the match or mismatch between the person and domains of his/her job environment. Maslach et al. (2001:413) explains that the greater the gap or the mismatch between the person and the job, the greater the occurrence of burnout, conversely the greater the match or fit, the greater engagement with work.

2.8.3 Structural model of burnout

In 1997 Maslach and Leiter developed a structural model of burnout which proposed that work engagement is at the opposite end of burnout of a three factor continuum of psychological relationship with work. Energy, involvement and efficacy are considered to be the opposite of the three subscales of burnout namely: emotional exhaustion, cynicism and reduced personal accomplishment. Energy is the quality that is exhausted in extreme negative scores on this subscale. The involvement dimension is defined as a specific inability to care about service recipients and efficacy, which describes employees' self-evaluations (Leiter, Gascon & Jaretta, 2010:59).

2.9 SUMMARY

As shown in the reviewed literature nurses are especially vulnerable to the development of burnout due to unique factors in their work environment which creates a great concern. Burnout develops gradually over time and the signs and symptoms are subtle at first but they progress as time passes. Research by Pontec et al. (2007:701), has demonstrated a positive correlation between individual and situational factors and the occurrence of burnout in nurses who work in critical care units. Furthermore, care should be taken to distinguish burnout from other conditions such as compassion fatigue, depression and stress.

2.10 CONCLUSION

In this chapter, a discussion of the literature regarding burnout in nurses and factors influencing burnout was reviewed. The literature showed that nursing is faced with numerous challenges in the work environment which creates a great concern. An overview of the objectives of this study was thus provided by investigating the literature. A conceptual theoretical framework which guided the study was described. In the next chapter the research methodology applied in the study is discussed.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

A more in depth discussion of the research methodology that was applied in the study is outlined in Chapter 3. A discussion of the research design, the population, the sampling procedure, pilot study, data collection method, data analysis and ethical considerations are included.

3.2 RESEARCH DESIGN

A non-experimental, descriptive, exploratory research design was applied with a quantitative approach to obtain information from different categories of nurses. Brink et al. (2006:92) describes a research design as the set of steps taken by the researcher to answer the research question which determines the methodology used to obtain information. According to Burns and Grove (2009:236), a research design is a blueprint for conducting the study in order to maximize control over factors that could interfere with the validity of the research results. Wood and Haber (2010:159), also state that the purpose of a research design is to aid in the systematic solution of the research question and to maintain control. A descriptive research design is used to gain information about characteristics within a specific sample or field and provide a picture of a situation as it naturally happens (Burns & Grove, 2009:237). The primary purpose of this study was to investigate factors experienced by nurses working in neonatal intensive care units that influence the degree of burnout.

3.3 POPULATION AND SAMPLING

3.3.1 Population

Polit and Beck (2010:306), describe a population as the entire set of individuals or objects having some common characteristics. According to Brink et al. (2006:123), a population refers to the entire group of persons that is of interest to the researcher and which meets the inclusion criteria of the study, known as the target population. The target population in this study included all permanent nursing staff working in the neonatal units of two different hospitals. For the convenience of this study, two neonatal intensive care units were used. One unit represented a tertiary referring unit for the public sector and another represented the private sector. The population of the 2 institutions combined was (n=105).

3.3.2 Sampling

Sampling is the process to obtain information regarding a phenomenon in a way that represents the population of interest (Brink et al., 2006:124). According to Polit and Beck

(2010:567), sampling is the process of selecting a portion of the population to represent the entire population. However, for the purpose of this study, a convenience sampling method was used and the total population of (n=105) were included in the study. The sample size was therefore (n = 105) nurses of different categories as displayed in table 3.1. and table3.2.

Table 3.1: Sample participants in public sector

Category	n
Registered nurses	25
Enrolled nurses	10
Nursing assistants	44
TOTAL	79

Table 3.2: Sample participants in private sector

Category	n
Registered nurses	20
Enrolled nurses	6
Nursing assistants	0
TOTAL	26

Only permanent nursing staffs were included in this study, because they worked at least 40 hours per week at the same institution. Agency nursing staff may work at different hospitals during a week and limited hours in the neonatal intensive care units. In addition, nursing students rotate through various areas of the hospital according to their clinical programme requirements and may only spend limited hours in the neonatal intensive care unit. Nursing managers are also excluded as they only visit the neonatal intensive care unit occasionally and non-nursing staff do not focus on nursing care and nursing duties, therefore they were not suitable for this specific study. Thus, only permanent nursing staff participated in this specific study. The return rate of the completed questionnaires was 97%.

3.3.3 Specific criteria

Permanent nursing staff of all categories who have given informed, written consent such as registered nurses, enrolled nurses and enrolled nursing assistants were included. Nursing staff on day and night duty were included as well as nurses on leave. Students, agency staff,

nursing managers and non-nursing staff were excluded due to reasons described in 3.3.2 above.

3.4 PILOT STUDY

A pilot study was done to test the feasibility of the study and to test the questionnaire for any errors and ambiguities. According to Burns and Grove (2009:44), a pilot study is a smaller version of a proposed study which is conducted to refine the methodology. Furthermore, De Vos et al.(2007: 205) explains that a pilot study forms an integral part of the research process and is a prerequisite for the successful execution and completion of a research project. The sample for the pilot study in this study was (n=10/10%) of the actual number of participants for the sample. The pilot study was done at the same hospitals. Nurses responded well to the questionnaire during the pilot study and no changes were required to the questionnaire. The results of the pilot study were included in the main study.

3.5 RELIABILITY AND VALIDITY

Reliability refers to the degree to which the instrument can be depended upon to yield consistent results if used repeatedly over time on the same person, or if used by two researchers (Brink et al., 2006:163). Polit and Beck (2010:566), define reliability as the degree of consistency or dependability with which an instrument measures an attribute. Reliability is concerned with consistency, accuracy, precision, stability, equivalence and homogeneity (Wood & Haber, 2010:295). Voluntary participation in this study by participants was ensured to reduce bias. A pilot study was done to enhance reliability of the questionnaire. The questionnaire was assessed by experts in the field to exclude any ambiguities.

Validity is ensured when data are accurately collected through a correct and reliable method (Brink et al., 2006:159). Validity of the questionnaire was supported by the use of a research methodologist, nurse expert and a statistician in the particular field. A pilot study was done to test the questionnaire and feasibility of the study, as well as to ensure reliability and validity. The Maslach Burnout Inventory – General Survey (Annexure B) is a well accepted measuring tool and was used in various research studies, for example Patrick and Lavery used the Maslach Burnout Inventory to assess burnout in registered nurses in the United Kingdom (Patrick & Lavery, 2007:43). Koekemoer and Mostert (2006:89) used an adapted version of the Maslach Burnout Inventory-General Survey measure burnout and to determine job characteristics associated with burnout. Müge (2009:3) used the Maslach Burnout Inventory-General Survey in combination with other tools to investigate the relationship among social support, burnout and experiences of anger in emergency nurses. For the purpose of this research the specific demographic data and factors influencing

burnout were added and assessed by an expert in nursing for content, face, construct and criterion validity. Content validity refers to the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain (Polit & Beck, 2010:377). According to Brink et al. (2006:202), face validity is the determination that an instrument is adequate for obtaining the desired information. Construct validity examines the fit between the conceptual and operational definitions of variables and determines whether the instrument actually measures the theoretical construct that it purports to measure (Burns & Grove, 2009:693). Criterion validity indicates to what degree the subject's performance on the measurement instrument and the subject's actual behaviour are related (Wood & Haber, 2010:290).

3.6 DATA COLLECTION TOOL

Data were collected by the use of a structured questionnaire (Annexure A). According to Burns and Grove (2009:406), a questionnaire is a printed, self-reporting form, designed to obtain information from the participant's written responses. The advantages of questionnaires include the following:

- Less time and effort to administer
- Allow anonymity and confidentiality
- The absence of a interviewer avoids biases

(Wood &Haber, 2010:277).

Questionnaires were handed out personally by the researcher and completed questionnaires were placed in a sealed box. This box was collected personally. The questionnaire had three sections (Section A, B, C).

Section A collected the demographic data that included:

- Age, gender, marital status, number of children, income per month, highest qualification
- Rank, Number of years in profession and rank, numbers of years in unit
- Travelling to work, work setting.

Section B measured burnout experienced by nursing by using the adapted version of the Maslach Burnout Inventory–General Survey (MBI-GS) (Maslach et al., 1996). Consent to use the MBI-GS was granted by the Centre for Organizational Research and Development, Arcadia University, California (Annexure C). The MBI-GS consists of three subscales namely: emotional exhaustion, cynicism and professional efficacy. A 7-point Likert scale

was used for Section B. A Likert scale determines the opinion or attitude of a subject and contains a number of declarative statements (Burns & Grove, 2009:410).

Section C covered the factors influencing the degree of burnout which included:

- Physical factors
- Psychological factors: decreased job satisfaction, emotional support and a sense of failure
- Social factors: social support from colleagues and managers and team work
- Occupational factors: role ambiguity, role conflict, role clarity, workload, recognition, communication, coping strategies, leadership and in-service training.

The questionnaire consisted of 48 closed-ended questions. Closed-ended questions are ones in which the response alternatives are prespecified by the researcher (Polit & Beck, 2010:343).

3.7 DATA COLLECTION

Data was collected through the use of a self-administered questionnaire after written, informed consent was given by the participant. Data was collected during the month of August 2011. A self-administered questionnaire was handed out to the participants, who completed it in their own time but the researcher was available if any problems were experienced. The questionnaire required approximately 30-40 minutes to complete (Annexure A). The aim of the study was explained to participants, as well as the importance of honest completion. With the availability of the staff on duty and leave lists for staff, the researcher identified the permanent nursing staff in the unit to participate. Participants (n=3), who decided not to take part in this study, returned the uncompleted questionnaire. The return rate of completed questionnaires was 97%.

3.8 DATA ANALYSIS

Quantitative data analysis is the systematic organization and synthesis of research data and the testing of hypotheses using that data (Polit & Beck, 2010:552). According to Burns and Grove (2009:44), quantitative data analysis reduces, organizes, and gives meaning to data which includes descriptive and exploratory procedures which describe study variables and the sample, statistical techniques to test proposed relationships, and techniques to make predictions. Statistical methods enable the researcher to reduce, summarise, organize, manipulate, evaluate, interpret and communicate quantitative data (Brink et al., 2006:171). According to Polit and Beck (2010:293), a statistic is a descriptive index from a sample.

The data was analyzed with the help of a qualified statistician from the University of Stellenbosch. MS Excel was used to process the data obtained and STATISTICA data analysis software system version 9.2 (Stat Soft Inc: 2009) was used to analyze the data obtained. Comparisons between groups were conducted using ANOVA. On completion of the statistical analysis the data were interpreted and presented in tables, histograms and frequencies. The following statistical tests as described below were done to determine any statistical significant difference (p=0.05) between variables, using a 95% confidence interval:

3.8.1 Spearman test

The Spearman test is a correlation coefficient that is used to determine the relationship between two variables (Burns & Grove, 2009:713). The test was used in study to determine a relationship between demographic factors of participants and physical, psychological, social and occupational factors.

3.8.2 Test of homogeneity

Polit and Beck (2010:556) describe homogeneity in terms of the reliability of an instrument, the degree to which its subsections are internally consistent or more generally the degree to which objects are similar. The test of homogeneity was used to determine differences between participants working in the private and public sector.

3.8.3 Man-Whitney U-test

The Man-Whitney U-test is a nonparametric statistic used to test the difference between two independent groups, based on ranked scores (Polit & Beck, 2010:599). The test was used to determine any differences between private and public sector nurses.

3.8.4 Post – hoc test

Statistical test developed to determine the location of differences between groups (Burns & Grove, 2009:714). The test was used to determine a statistical significant difference between two factors.

3.9 ETHICAL CONSIDERATIONS

In this study, the research study adhered to the ethical principles necessary when conducting research. Participants had a choice to participate voluntarily after written, informed consent (Annexure D) was given. Participants that decided not to take part in this study were not victimized in any way. The questionnaire (Annexure A) used in this study to collect data was assessed by the Human Sciences Research Ethics Committee at Stellenbosch University to ensure that the questionnaire was free of any human rights violations. Consent from both institutions where the study was conducted was obtained

(Annexure F). The study was approved by the Stellenbosch Human Sciences Research Ethics Committee (Annexure G). The completed questionnaires were placed in a sealed box, and were collected by the researcher to ensure that only the researcher has access to the questionnaires. The data and all information pertaining to the study will be kept for a period of five years in a locked cupboard to which access can be gained only by the researcher.

A researcher is responsible for conducting the study in an ethical manner. According to Brink et al.(2006:46) ethical standards serve as a framework for conducting and participating in research, as well as criteria against which nurses, as advocates for their patients, can judge proposed research in which their patients will be study subjects, as well as to evaluate and account for the ethical standards in nursing research.

3.10 SUMMARY

A descriptive, exploratory research design with a quantitative approach was applied using a questionnaire for the collection of data. The target population in this study included all permanent nursing staff working in the neonatal units of two different hospitals. A pilot study was conducted and data was collected personally by the researcher. Data were analyzed with the assistance of a statistician.

3.11 CONCLUSION

In this chapter, the research methodology applied in this study was described. In chapter 4 the data analysis and interpretation are discussed.

CHAPTER 4: PRESENTATION, ANALYSIS, AND INTERPRETATION OF RESULTS

4.1 INTRODUCTION

In this chapter the results of the study are interpreted, discussed and presented in tables, histograms and frequencies. The data in the study were analysed with the support of a statistician with computerized data analysis software, the STATISTICA Version 9.2 programme. Data are presented in a quantitative form.

4.2 DESCRIPTION OF STATISTICAL ANALYSIS

The tests performed during the data analysis were described in paragraph 3.8. The outcomes of all variables covered in the questionnaire are discussed.

4.3 SECTION A: DESCRIBING DEMOGRAPHIC FACTORS OF PARTICIPANTS

4.3.1 Question 1: Age

The response rate to this question was (n =102/100%) with a mean age of 37.3 and a median of 37. The minimum age was 23 and the maximum 58 years. The frequencies of different age groups of participants are presented in table 4.1. A large number of participants (n=38/37%) were between 30 and 39 years old, followed by (n=34/33%) participants between 40 and 49 years old.

Table 4.1: Age groups of participants

Age groups of participants	n	%
20-29 yrs	22	22
30-39 yrs	38	37
40-49 yrs	34	33
50-59yrs	8	8
TOTAL	**102**	**100**

4.3.2 Question 2: Gender

According to table 4.2 the sample consisted only of female participants, which could be attributed to a predominantly female profession. Currently the nursing profession consists of

a total of 231086 nurses in South Africa of which 92% (212572) are females and only 8% (18514) are male (SANC, 2010).

Table 4.2: Gender

Gender	n	%
Female	102	100
Male	0	0
TOTAL	**102**	**100**

4.3.3 Question 3: Marital status

The majority of participants (n=63/62%) indicated that they were married, followed by (n=31/30%) participants who were single (Table 4.3).

Table 4.3: Marital status of participants

Marital status of participants	n	%
Married	63	62
Divorced	4	4
Widowed	4	4
Single	31	30
TOTAL	**102**	**100**

4.3.4 Question 4: Number of children

The number of children of participants is shown in table 4.4. A large number of participants (n=50/49%) indicated that they have one or two children, followed by (n=30/29%) participants who indicated that they have no children.

Table 4.4: Number of children

Number of children	n	%
None	30	29
1- 2	50	49
3	16	16
4+	6	6
TOTAL	**102**	**100**

4.3.5 Question 5: Income per month

The monthly income of participants is presented in figure 4.1. A large number of participants (n=44/43%) indicated that their income is between R5001- R8000, followed by (n=40/39%) participants who indicated their income as R11000 or above.

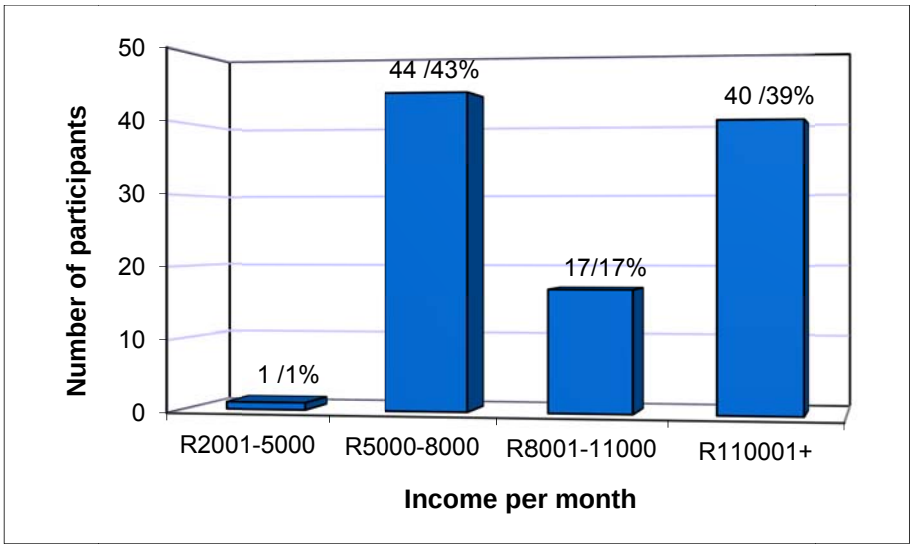

Figure 4.1: Income per month

4.3.6 Question 6: Highest educational qualification

The highest qualifications of participants are shown in figure 4.2. A large number of participants (n=46/45%) indicated their highest qualification as “Other”, which included certificates obtained by enrolled nurses who completed the bridging course and enrolled nursing assistants, while (n=35/34%) participants indicated their highest qualification as a diploma.

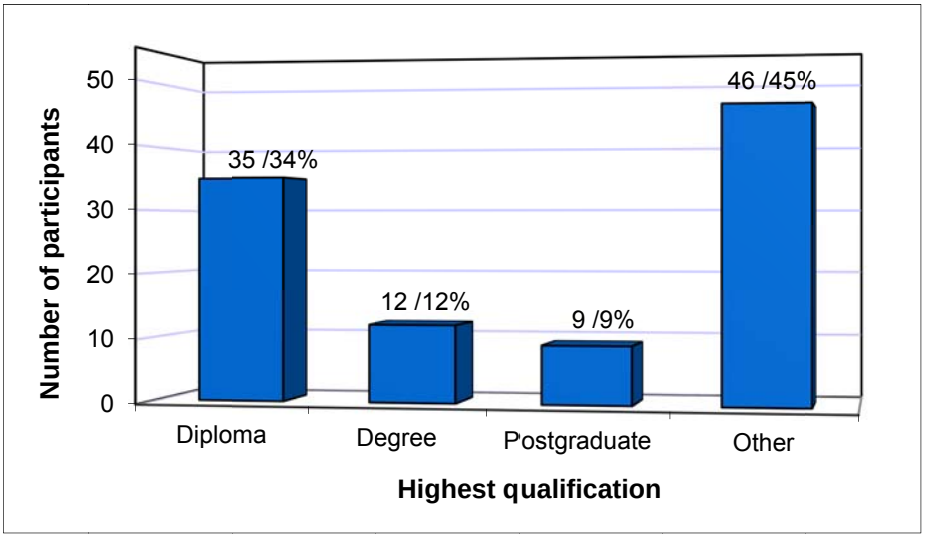

Figure 4.2: Highest educational qualifications of participants

4.3.7 Question 7: Number of years in profession

The number of years that participants are in the nursing profession is shown in table 4.5. A large number of participants (n=49/48%) were ten or more years in the profession, followed by (n=26/25 %) participants who were six to nine years in the nursing profession.

Table 4.5: Number of years in profession

Number of years in profession	n	%
0-2 years	12	12
3-5 years	15	15
6-9 years	26	25
10-10+ years	49	48
TOTAL	**102**	**100**

4.3.8 Question 8: Rank

The rank of participants in the private and public sector are displayed in figure 4.3. In the private sector participants (n=18/18%) were registered nurses and (n=5/5%) enrolled nurses, while the public sector consists of registered nurses (n=25/24 %), enrolled nurses (n=10/10%) and (n=44/43%) nursing assistants.

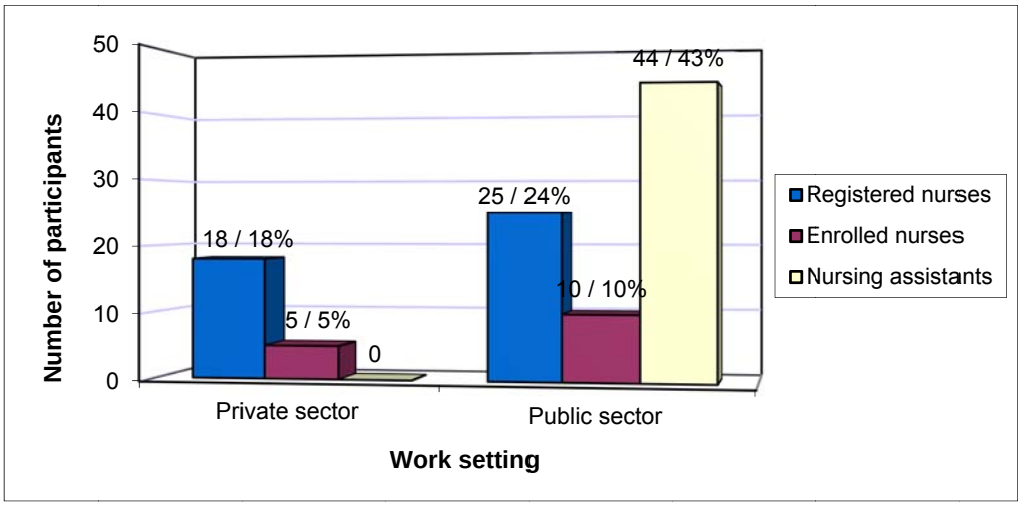

Figure 4.3: Rank

4.3.9 Question 9: Number of years in rank

Table 4.6 shows the number of years participants were in their rank. A large number of participants (n=41/40%) were ten or more years in their rank, while (n=23/22%) participants were six to nine years in their rank.

Table 4.6: Number of years in rank

Number of years in rank	n	%
0-2 years	17	17
3-5 years	21	21
6-9 years	23	22
10-10+ years	41	40
TOTAL	**102**	**100**

4.3.10 Question 10: Number of years in the unit

The number of years that nurses were in the unit is presented in table 4.7. A large number of participants (n=29/28%) indicated that they were six to nine years in the unit, followed by (n=29/28%) participants who were three to five years in the unit.

Table 4.7: Number of years in the unit

Number of years in unit	n	%
0-2 years	18	18
3-5 years	29	28
6-9 years	29	28
10-10+ years	26	26
TOTAL	**102**	**100**

4.3.11 Question 11: Mode of travelling to work

The mode of travel participants make use of to travel to work is presented in figure 4.4. The majority of participants (n=54/53%) travel with public transport to work, followed by (n=37/ 36%) participants who travel with their own transport to work.

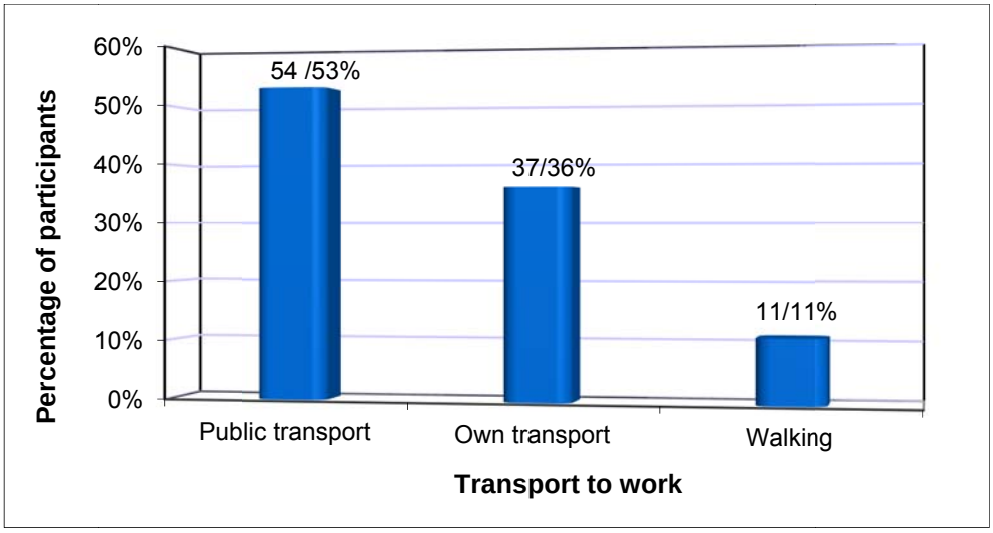

Figure 4.4: Travelling to work

4.3.12 Question 12: Work setting

The composition of nurses of different work settings are displayed in figure 4.5. The private sector consisted of participants (n=23/23 %), while the public sector consisted of (n=79/ 77 %) participants.

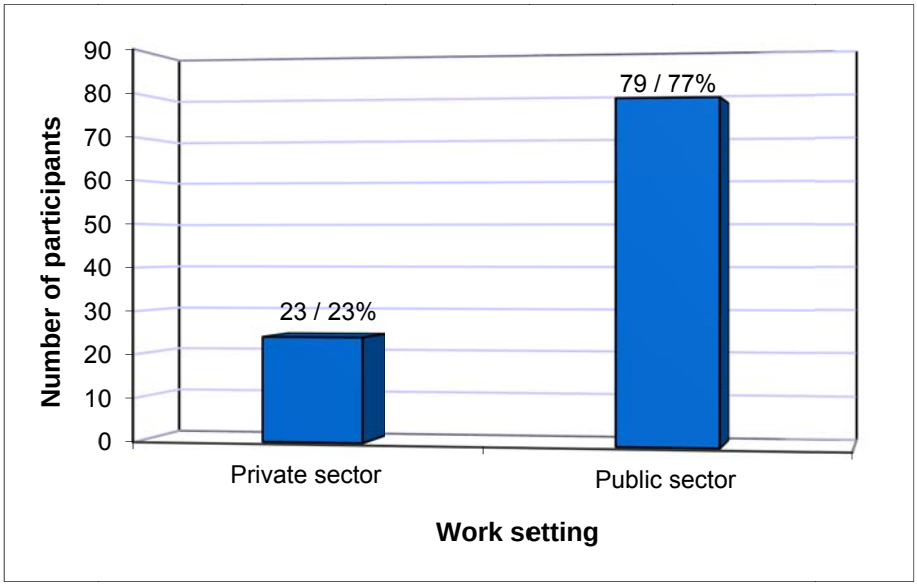

Figure 4.5: Work setting

4.4 SECTION B: DETERMINING THE DEGREE OF BURNOUT

The following five questions in Section B of the questionnaire were grouped to form the emotional exhaustion subscale of burnout:

- Question 13. I feel emotionally drained from my work.
- Question 14. I feel tired at the end of my workday.

- Question 15. I feel tired when I get up in the morning and have to face another day on the job.
- Question 16. Working all day is really a strain for me.
- Question 18. I feel burned out from my work.

The following six questions in Section B of the questionnaire were grouped to form the professional efficacy subscale of burnout:

- Question 17. I can effectively solve the problems that arise in my work.
- Question 19. I feel I'm making an effective contribution to what this hospital offers.
- Question 22. In my opinion, I am good at my job.
- Question 23. I feel exhilarated when I accomplish something at work.
- Question 24. I have accomplished many worthwhile things in this job.
- Question 28. At my work, I feel confident that I am effective at getting tasks done.

The following five questions in Section B of the questionnaire were grouped to form the cynicism subscale of burnout:

- Question 20. I have become less interested in my work since I started this job.
- Question 21. I have become less enthusiastic about my work.
- Question 25. I just want to do my job and not to be bothered.
- Question 26. I doubt the significance of my work.
- Question 27. I have become more cynical about whether my work contributes to anything.

According to the Maslach Burnout Manual which was compiled in 1996 the scores of the three subscales are computed by summing up the items score in each subscale. The results are meaningful when they are classified into categories of low, moderate and high for each subscale (table 4.8). In some cases it is recommended that the scores of the three subscales are added to form one score. In contrast, Maslach et al. (2001:419) recommended that no total score of burnout should be calculated.

Table 4.8: Classification of burnout subscales scores

Burnout scale	Low	Average	High
Emotional exhaustion	<1.77	1.78 - 2.88	>2.89
Professional efficacy	<1.39	1.4 – 2.59	> 2.6
Cynicism	< 3.99	4.0 – 4.87	> 4.88

4.4.1 Question 13,14,15,16, 18: Emotional exhaustion

Descriptive statistics for emotional exhaustion are shown in table 4.9. The scores of participants (n=102) for emotional exhaustion in this study ranged from a minimum of 0.4 to a maximum of 5.2. The mean score of this scale was 2.32 and is classified as an average level of emotional exhaustion.

Table 4.9: Descriptive statistics for emotional exhaustion

Burnout subscale	n	Minimum score	Maximum score	Mean score
Emotional exhaustion	102	0.4	5.2	2.32

The demographic factors in section A were correlated with the subscale emotional exhaustion in section B. Although no statistical significant difference was found between emotional exhaustion and marital status of participants in the study, the highest level of emotional exhaustion was reported by single participants (n=31/30%) with a mean score of 2.36 compared to married participants (n=63) with a mean score of 2.28.The findings are supported in a study by Gulalp et al. (2008:35), on nurses working in the emergency department in Turkey. The results showed that single participants (n=18/20%) had higher levels of emotional exhaustion than married nurses (n=65/72%) with lower emotional exhaustion. In contrast Malliarou, Moustaka & Konstantinidis (2008:146), compared married and single nurses and concluded in their study that married nurses (n=43/67%) experience higher levels of emotional exhaustion (mean=28.0) than single nurses (n=21/ 33%) with lower levels of emotional exhaustion with a mean score of 24.1.

Furthermore, a statistical significant difference was found between emotional exhaustion and rank of participants shown with a post hoc statistical test (p=<0.01). Levene's test for Homogeneity of Variance showed a significant result p= ≤ 0.01. In addition a post-hoc statistical test showed in this study that registered nurses (n=38/42%) experienced higher levels of emotional exhaustion (mean score =2.74), than enrolled nurses (n=14/14 %) with a mean score of 2.08.

In addition a statistical significant difference was found between emotional exhaustion and the highest qualification with a post-hoc statistical test (p=0.05). A post-hoc statistical test showed in the study that participants (n=9/9%) with a postgraduate qualification experience the highest level of emotional exhaustion (mean score =2.77). These results are supported by Elkonin and van der Vyver (2011:4) in their study on thirty intensive care nurses, which

showed that nurses with a post-qualification training experienced higher levels of emotional exhaustion.

In this study a statistical significant difference was found between emotional exhaustion and the number of years participants worked in a unit shown with the Spearman statistical test (p=0.02) indicating that the longer the participants were in the unit the more likely it became that they would experience emotional exhaustion. These results are supported by Iglesias, Vallejo & Fuentes (2010:34), who showed in their study a significant association (p= 0.01) between years working in intensive care unit and emotional exhaustion.

Furthermore, a statistical significant difference was found between emotional exhaustion and high workload shown with the Spearman statistical test (p=0.01), indicating that the higher the workload, the more likely staff would experience emotional exhaustion. These results are supported in a study by Kowalski, Ommen, Driller, Ernstmann, Writz & Kohler (2010:1654) who examined the relationship between workload and emotional exhaustion in nurses. Results showed that emotional exhaustion are associated with workload.

In addition, a statistical significant difference was found between emotional exhaustion and managerial leadership skills shown with the Spearman statistical test (p=0.04).

In this study a statistical significant difference was found between emotional exhaustion and income per month of participants shown with the Spearman significant test (p=0.02).

4.4.2 Question 17, 19, 22, 23, 24, 28: Professional efficacy

Descriptive statistics for professional efficacy are shown in Table 4.10. The scores of participants (n=102) for professional efficacy ranged from a minimum score of 2.33 to a maximum score of 6.0. The mean score of professional efficacy was 4.44 and is classified as a high level of professional efficacy.

Table 4.10: Descriptive statistics for professional efficacy

Burnout scale	n	Minimum score	Maximum score	Mean score
Reduced personal accomplishment	102	2.33	6.0	4.44

The demographic factors in section A were correlated with the subscale professional efficacy in section B. Although no statistical significant difference was found between professional efficacy and marital status of participants who are married in this study, married participants

(n=63/62%) experienced higher levels of professional efficacy (mean score =4.54) than single participants (n=31/30%) with a mean score of 4.25. This is supported in a study by Gulalp et al. (2008:35), on nurses working in the emergency department in Turkey. Married participants had higher personal accomplishments than single participants. Furthermore, Malliarou, Moustaka & Koonstantinidis (2008:146), concluded in their study that married nurses experience higher levels of professional efficacy than single nurses.

In addition, a statistical significant difference was found between professional efficacy and rank of participants in this study using post-hoc statistical tests for probability (p=<0.01). Registered nurses (n=38/42%) experienced higher levels of professional efficacy (mean score =4.72), than enrolled nurses (n=14/14 %) with a mean score of 4.63.

In this study there was a statistical significant difference between age and professional efficacy shown with the Spearman statistical test (p=0.04). This is confirmed by Patrick and Lavery (2007:45) in a study of 574 nurses, in which age (mean=43.94) was associated significantly with reduced personal accomplishment (p=0.04).

Furthermore, a statistical significant difference was found between professional efficacy and monthly income of participants shown with the Spearman statistical test (p=<0.01), indicating that participants with a high income are more likely to experience professional efficacy.

In addition, a statistical significant difference was found between professional efficacy and highest qualification shown with a post-hoc statistical test (p=<0.01).

4.4.3 Question 20, 21, 25, 26, 27: Cynicism

Descriptive statistics for cynicism are shown in table 4.11. The scores of participants (n=102) for cynicism ranged from a minimum score of 0.00 to a maximum score of 4.0. The mean score for this subscale was 1.46 and is classified as a low level of cynicism.

Table 4.11: Descriptive statistics for cynicism

Burnout scale	n	Minimum Score	Maximum score	Mean score
Cynicism	102	0.00	4.0	1.46

The demographic factors in section A were correlated with the subscale cynicism in section B. Although no statistical significant difference was found between cynicism and marital status of participants in this study, married participants (n=63/62%) with a mean score of 1.48 indicated higher levels of cynicism than (n=31/30%) single participants (mean score =1.36). In contrast, a study by Gulalp et al. (2008:35), on nurses working in the emergency

department in Turkey showed that single participants (n=18/20%) had higher levels of cynicism than married nurses (n=65/72%).

Furthermore, although no statistical significant difference was found between cynicism and the rank of participants in this study, by making use of a post-hoc statistical test, it was shown that registered nurses (n=38/39%) experienced higher levels of cynicism (mean score =1.62), than enrolled nurses (n=14/14 %) with a mean score of 1.40.

In this study a statistical significant difference was found between cynicism and the number of years participants were in the nursing profession with the Spearman statistical test (p=0.05) indicating that the longer participants were in the profession, the more likely they were to experience cynicism. In contrast, Thorsen, Tharp & Meguid (2011:1188) conducted a study on maternal staff in Malawi. Participants consisted of 101 nurses. Results showed that cynicism was not significantly associated (p=0.20) with the number of years participants were in the nursing profession.

In addition, a statistical significant difference was found between cynicism and years participants were in the unit with the Spearman statistical test (p=<0.01) indicating that the longer participants were in the unit, the more likely they were to experience cynicism.

In section C of the questionnaire, participants had four response options to each question namely agree, strongly agree, disagree and strongly disagree, but these options were collapsed into two categories namely agree or disagree when data were analysed.

4.5 SECTION C.1 DETERMINING PHYSICAL FACTORS INFLUENCING THE DEGREE OF BURNOUT

4.5.1 Question 29: Which of the physical symptoms do you experience?

The percentage of participants who experienced various physical symptoms is displayed in figure4.6. Tiredness was experienced by most participants (n=82/80%), while (n= 33/32%) participants indicated that they experienced back pain followed by (n=31/30%) participants who experienced muscle aches. These results are supported by Kane (2009:28) who conducted a study to identify the incidence of psychosomatic illness related to stress on (n=106) nurses. In this study participants (n=43/41 %) experienced tiredness, and (n=50/ 47%) participants experienced back pain.

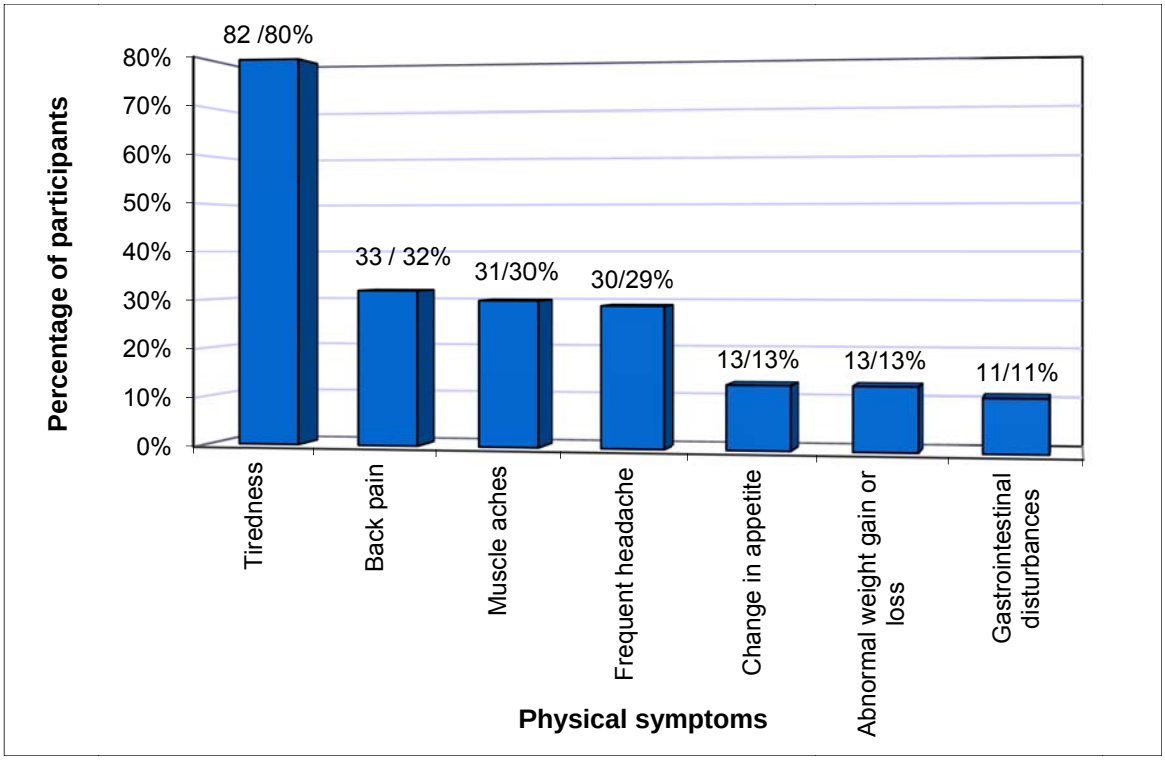

Figure 4.6: Physical symptoms experienced by participants

4.5.2 Question 30: How many of your sick leave days are used for this year?

Table 4.12 shows the number of days participants have taken sick leave for that current year. The majority of participants (n=35/34%) indicated that they have taken zero to two days sick leave for the current year followed by (n=27/26%) participants indicating that they had taken six to nine days of sick leave.

Table 4.12: Sick leave days taken

Number of days	n	Percentage
0 -2 days	35	34
3- 5 days	25	25
6 – 9 days	27	26
10-10+	15	15
TOTAL	102	100

4.5.3 Question 31: How many hours do you sleep in a night?

The number of hours participants sleep per night are shown in table 4.13. The majority of participants (n=60/59%) indicated that they sleep an average of five to six hours per night, followed by (n=34/33%) participants sleeping six to seven hours per night. A statistical significant difference was found in this study between the number of hours participants sleep and the way participants travel to work shown with the Mann-Whitney U statistical test

(p=0.04). Participants (n=54/53%) travelling with public transport were more likely to sleep less hours than participants (n=48/47%) not travelling with public transport. Ekstedt, Soderstorm, Akerstedt & Aleksander (2006:121), performed a study to examine sleep in a group of participants suffering from occupational burnout. Participants with burnout showed sleepiness at most times of the day as well as weekends. These findings showed that burnout is characterized by impaired sleep.

Table 4.13: Hours of sleeping

Hours	n	Percentage
4 hours or less	2	2
5 - 6 hours	60	59
6 – 7 hours	34	33
7-8 hours	6	6
TOTAL	102	100

SECTION C.2. DETERMINING PSYCOLOGICAL FACTORS INFLUENCING THE DEGREE OF BURNOUT

4.5.4 Question 32. I experience decreased job satisfaction and accomplishment

Figure 4.7 shows responses of participants to decreased job satisfaction and accomplishment. The majority of participations (n=56/55%) agreed that they experienced decreased job satisfaction and accomplishment, followed by (n=46/45%) participants who disagreed that they experienced decreased job satisfaction and accomplishment. Results further show that reduced job satisfaction was the highest among enrolled nurses (n=15/15%) with a mean score of 3.21 followed by nursing assistants (n=44/43%) with a mean score of 3.11.

In this study a statistical significant difference was found between decreased job satisfaction and accomplishment and the years participants were in the profession with the Spearman statistical test (p=<0.01) indicating that the participants that were longer in the profession being more likely to experience decreased job satisfaction and accomplishment . Furthermore, a statistical significant difference was found between decreased job satisfaction and accomplishment and years participants were in the unit with the Spearman statistical test (p=<0.01).

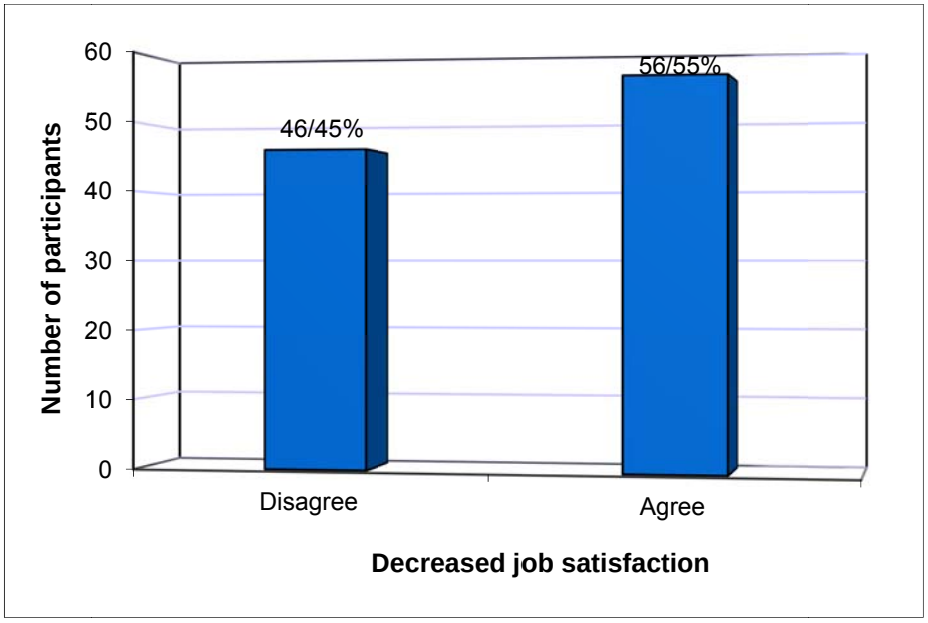

Figure 4.7: Decreased job satisfaction and accomplishment

4.5.5 Question 33. I have enough emotional support

Figure 4.8 shows the participant's opinion on whether they have enough emotional support. The majority of participants (n=83/81%) agreed that they have enough emotional support, followed by (n=19/19 %) participants that disagreed that they do not have enough emotional support.

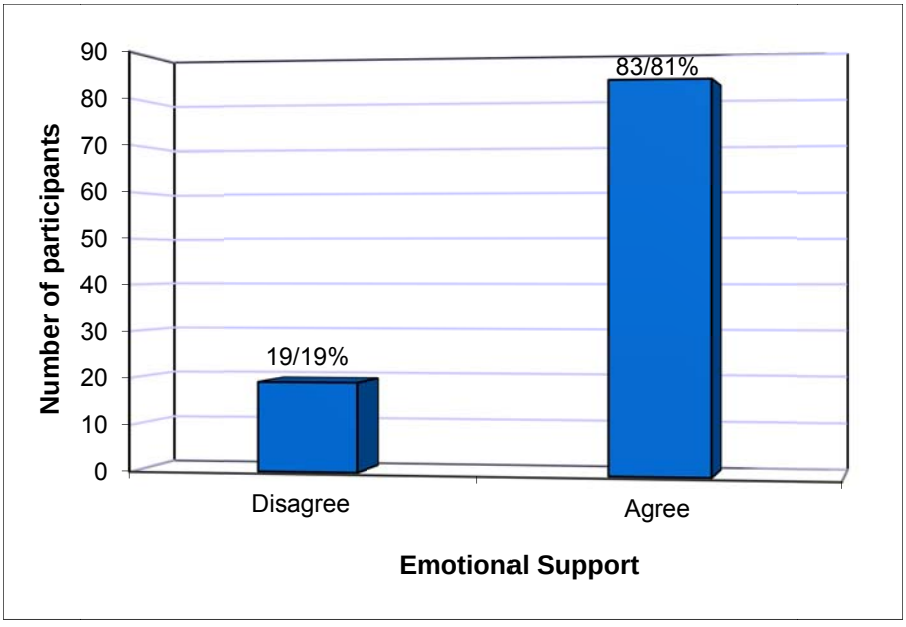

Figure 4.8: Enough emotional support

4.5.6 Question 34. I am feeling alone and helpless and experience a sense of failure

Table 4.14 shows participants' feeling of hopelessness and a sense of failure. The majority of participants (n=93/91%) disagreed that they experience feelings of hopelessness and a sense of failure, followed by (n=9/9%) participants agreeing that they do experience feelings of hopelessness and a sense of failure.

Table 4.14: Feelings of hopelessness and sense of failure

Response	n	Percentage
Agree	9	9
Disagree	93	91
TOTAL	102	100

SECTIONC.3. DETERMINING SOCIAL FACTORS INFLUENCING THE DEGREE OF BURNOUT

4.5.7 Question 35. I receive social support from my colleagues

The responses of participants regarding receiving social support from their colleagues are shown in figure 4.9. The majority of participants (n=82/80%) agreed that they receive social support from their colleagues, followed by (n=20 /20%) participants who disagreed that they receive social support from their colleagues. A statistical significant difference was found in this study between social support from colleagues and the years participants were in the unit shown with the Spearman statistical test (p=0.05).

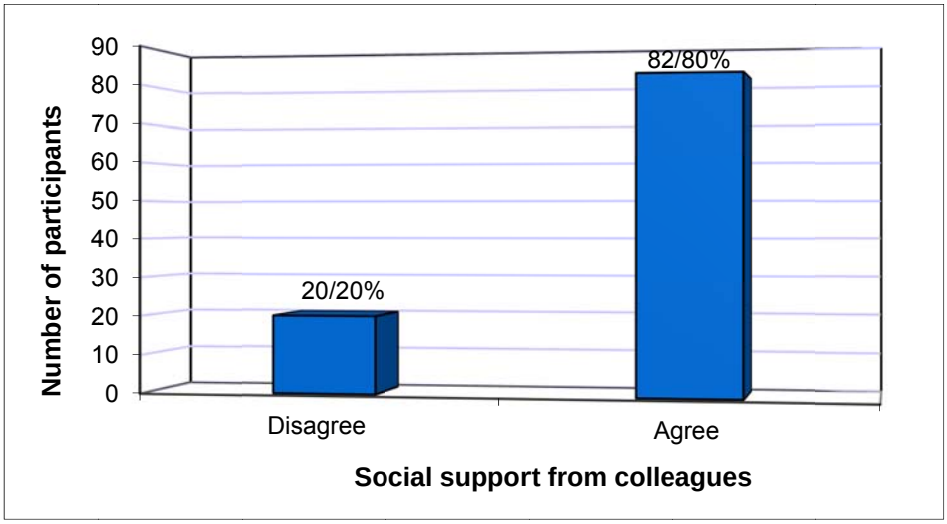

Figure 4.9: Social support from colleagues

4.5.8 Question 36. I receive social support from my managers

Figure 4.10 shows the responses of participants regarding receiving social support from their managers. The majority of participants (n=64/63%) disagreed that they receive social support from their managers, followed by (n=38 /37%) participants that agreed that they receive social support from their managers.

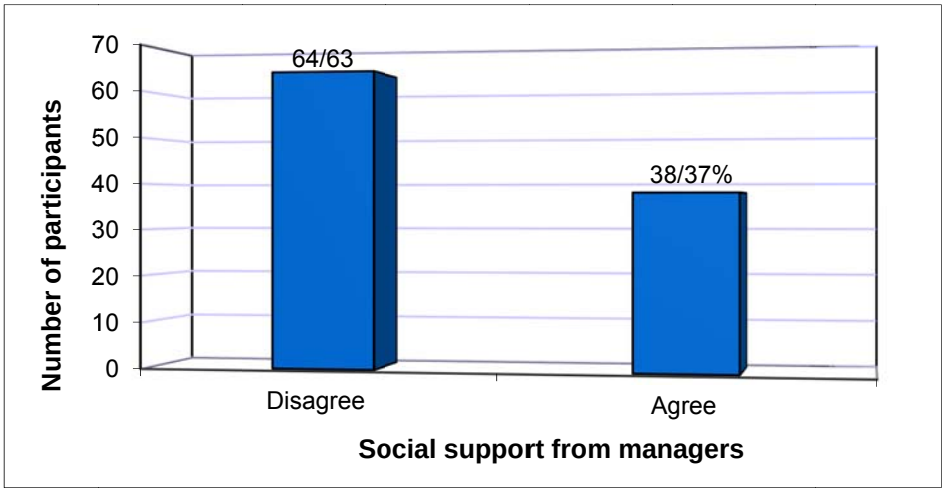

Figure 4.10: Social support from managers

4.5.9 Question 37. As a team working together we attend teambuilding sessions or social events

Table 4.15 shows participants attending teambuilding and social events as a team working together. The majority of participants (n=56/55%) disagreed that they attend teambuilding sessions or social events as a team, followed by (n=46/45%) participants who agree. A statistical significant difference was found in this study between attending teambuilding and social events and the work setting of participants shown with the Mann-Whitney U statistical test (p=0.02). Participants (n=24/24%) in the private work setting was more likely to agree than participants (n=78/76%) in the public work setting that as members of a team working together they attend teambuilding sessions or social events together.

Table 4.15: Teambuilding and social events

Response	n	Percentage
Agree	46	45
Disagree	56	55
TOTAL	102	100

SECTION C.4 DETERMINING OCCUPATIONAL FACTORS INFLUENCING THE DEGREE OFBURNOUT

4.5.10 Question 38. I feel uncertain about what should be accomplished in my job (role ambiguity)

Figure 4.11 displays responses of participants to whether they feel uncertain about what should be accomplished in their job. The majority of participants (n=90/88%) disagreed that they feel uncertain about what should be accomplished in their job, followed by (n=12/12%) participants who agreed that they feel uncertain about what should be accomplished in their job.

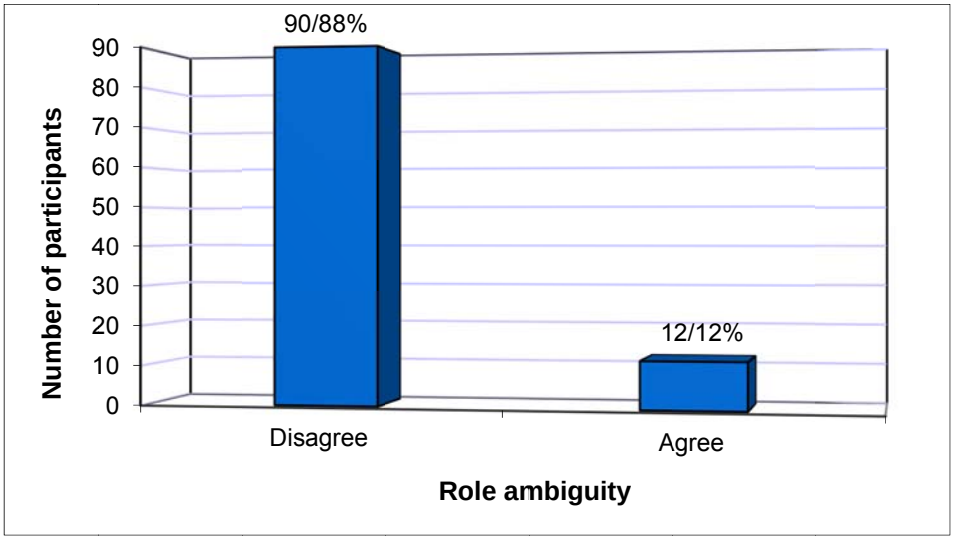

Figure 4.11: Role ambiguity

4.5.11 Question 39. I have two or more role requirements at work that work against each other (role conflict)

Responses of participants with reference to whether they have two or more requirements at work that work against each other are displayed in figure 4.12. The majority of participants (n=89/87%) disagreed that they have two or more requirements at work that work against each other, followed by (n=13/13%) participants who agreed.

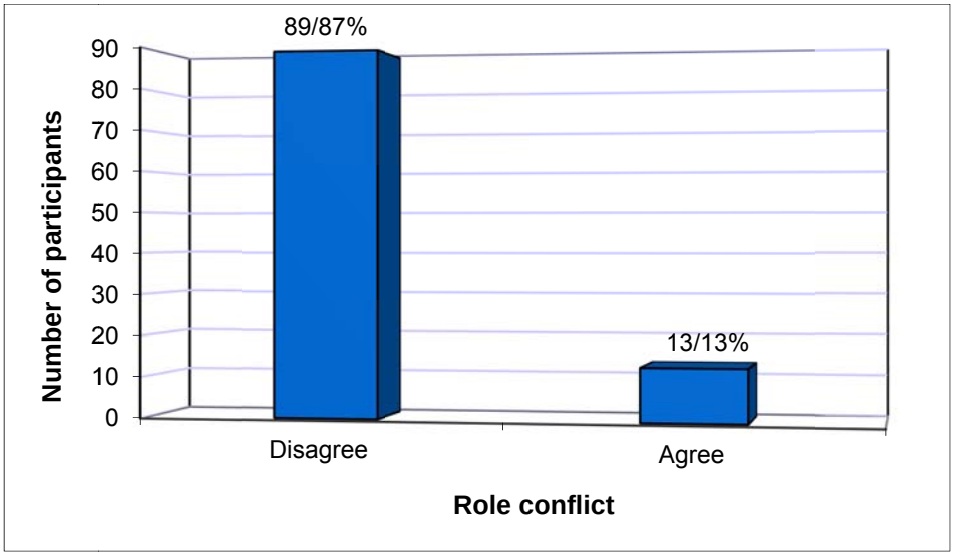

Figure 4.12: Role conflict

4.5.12 Question 40. I have a clear job description (role clarity)

In figure 4.13 the responses of participants regarding a clear job description are displayed. The majority of participants (n=85/83%) agreed that they have a clear job description, followed by (n=17/17%) participants who disagreed.

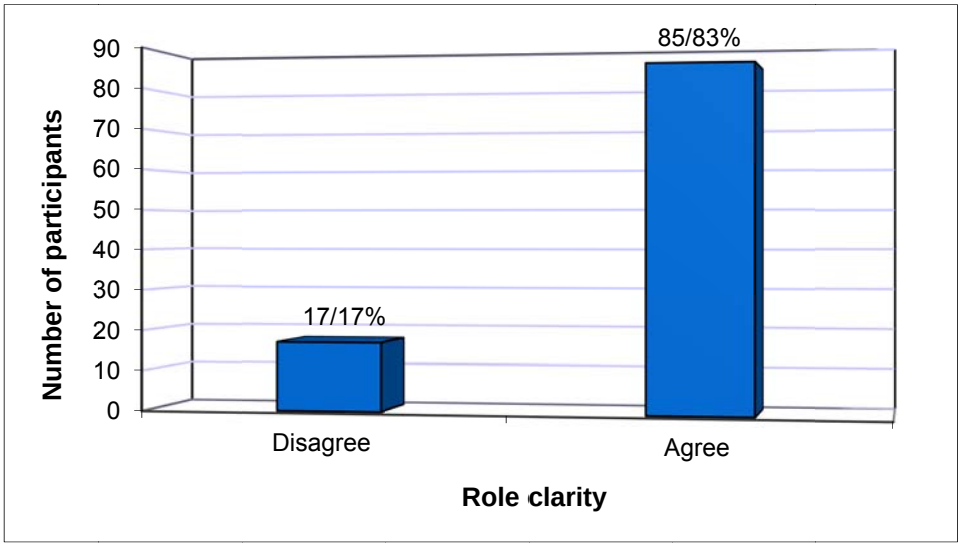

Figure 4.13: Role clarity

4.5.13 Question 41. My workload is too much for me

Figure 4.14 shows responses of participants on experience of high workload. The majority of participants (n=52/51%) agreed that their workload is too much for them, followed by (n= 50/49%). A statistical significant difference was found between a high workload and the number of years participants were in the unit using the Spearman statistical test (p=<0.01),

indicating that the longer participants were in the unit, the more likely they were to experience a higher workload.

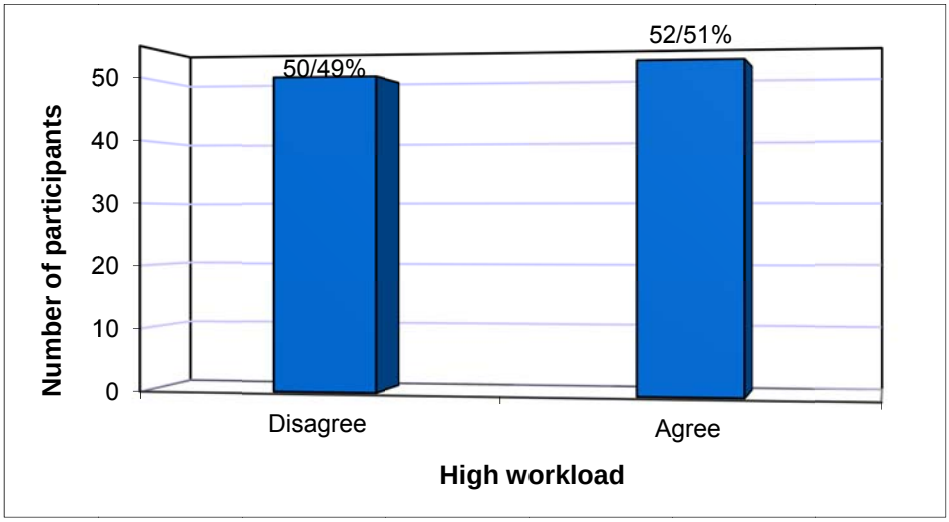

Figure 4.14: Workload

4.5.14 Question 42. I get recognized for the work I do

Table 4.15 shows the response of participants regarding recognition for their work. The majority of participants (n=63/62%) disagreed that they are recognized for the work they do, followed by (n=39/38%) participants who agreed that they do get recognition for the work they do.

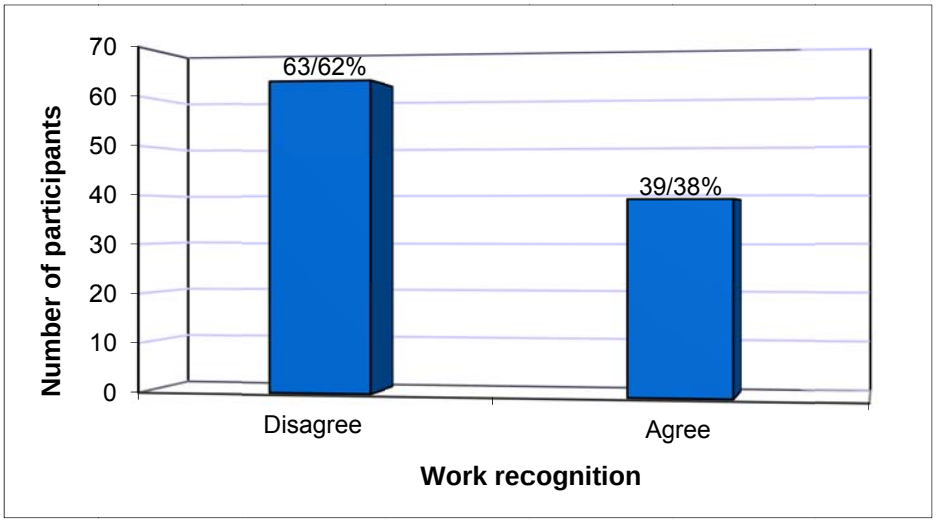

Figure 4.15: Recognition of work

4.4.15 Question 43. I feel there is poor communication amongst staff in the unit

Figure 4.16 shows the responses of participants to poor communication amongst staff in the unit. The majority of participants (n=54/53%) agreed that there is poor communication in the unit, while (n=48/47%) participants disagreed.

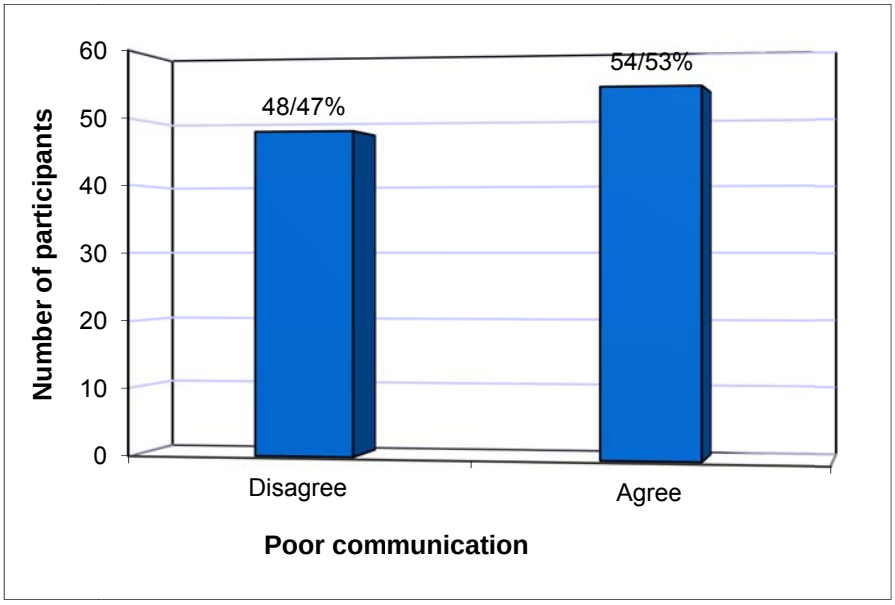

Figure 4.16: Poor communication

4.5.16 Question 44. I have coping strategies to cope with my stress at work

Table 4.16 shows the presence of coping strategies in participants to cope with work stress. The majority of participants (n=68/67%) agreed that they have coping strategies to cope with work stress, followed by (n=34/33%) participants who disagreed.

A statistical significant difference was found in this study between coping strategies to cope with work stress and the years participants were in the profession shown with the Spearman statistical test (p=0.01), indicating that the longer participants were in the profession, they are more likely to have the necessary coping strategies to cope with work stress.

Table 4.16: Coping strategies to cope with work stress

Response	n	Percentage
Agree	68	67
Disagree	34	33
TOTAL	102	100

4.5.17 Question 45. Our management has good leadership skills

Table 4.17 shows participants' responses to managers who have good leadership skills. The majority of participants (n=52/50%) disagreed that their managers have good leadership skills, followed by (n=50/49%) participants who agreed that their management have good leadership skills. A statistical significant difference was found in this study between the good leadership skills of management and the number of years participants were in the unit using the Spearman statistical test (p=0.03).

Table 4.17: Good managerial leadership skills

Response	n	Percentage
Agree	50	49
Disagree	52	51
TOTAL	102	100

4.5.18 Question 46. I attend in-service training and workshops to update my knowledge and skills

Table 4.18 shows the attendance of in-service training and workshops by participants. The majority of participants (n=83/81%) agreed that they attend in-service training and workshops, followed by (n=19/19%) participants that disagreed. A statistical significant difference was found in this study between attending in-service training and workshops and the years participants were in the unit using the Spearman statistical test (p=<0.01), indicating that the longer participants were in the unit, the more likely they are to attend in-service training and workshops.

Table 4.18: Attendance of in-service training and workshops

Response	n	Percentage
Agree	83	81
Disagree	19	19
TOTAL	102	100

4.5.19 Question 47. Stress management is offered at the hospital

Table 4.19 shows that the majority of participants (n=63/62%) agreed that stress management is offered at the hospital, followed by (n=39/38%) participants who disagreed.

Table 4.19: Stress management offered at hospital

Response	n	Percentage
Agree	63	62
Disagree	39	38
TOTAL	102	100

4.5.20 Question 48.I attended a time-management workshop

The attendance of a time-management course by participants is shown in table 4.20. The majority of participants (n=87/85%) disagreed that they attended a time- management course, while (n=15/15%) participants agreed.

Table 4.20 Attendance of time-management course

Response	n	Percentage
Agree	15	14
Disagree	87	86
TOTAL	102	100

4.6 SUMMARY

The data collected during this study was analysed, interpreted and discussed in this chapter. The researcher successfully investigated and addressed the research question in this study, which was: “What are the factors influencing the degree of burnout experienced by nurses working in neonatal intensive care units?” Thus, the factors influencing the degree of burnout experienced by nurses working in neonatal intensive care units were successfully explored. The following objectives in the study were met:

- To determine the degree of burnout of participants
- To determine which of the following factors influenced the degree of burnout experienced by nurses working in neonatal intensive care units:
  - Physical factors
  - Psychological factors
  - Social factors
  - Occupational factors

Furthermore, analyses showed that participants experienced an average level of emotional exhaustion, high level of professional efficacy and low level of cynicism.

4.7 CONCLUSION

The study identified factors that influence the degree of burnout experienced by nurses working in neonatal intensive care units. Recommendations based on the scientific evidence obtained during the research study are discussed in Chapter 5.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter, conclusions are drawn based on the scientific evidence obtained during this study. The research question, goal, objectives, and limitations of this study are discussed and recommendations, as derived from this study, are presented.

5.2 GOAL AND OBJECTIVES

The goal of the study was to investigate the factors that influence the degree of burnout experienced by nurses working in neonatal intensive care units.

The specific objectives set for the study were as follows:

- To determine the degree of burnout of participants
- To determine which of the following factors influenced the degree of burnout experienced by nurses working in neonatal intensive care units:
  - Physical factors
  - Psychological factors
  - Social factors
  - Occupational factors

These objectives were met through the research study that aimed at identifying the factors that influence burnout experienced by nurses working in the neonatal intensive care units. A questionnaire (annexure A) as described in paragraph 3.6 was applied to determine these factors.

5.2.1 Section B:

5.2.1.1 Objective: To determine the degree of burnout

5.2.1.1.1 Emotional exhaustion

A statistical significant difference was found between emotional exhaustion and high workload (p=0.01). Similar results are shown in a study by Kowalski et al. (2010:1654) in which emotional exhaustion is associated with workload.

In addition, emotional exhaustion was significantly associated with the number of years participants worked in a unit (p=0.02). These results are supported by Iglesias et al.

(2010:34), which showed a significant association (p= 0.01) between years working in intensive care unit and emotional exhaustion.

5.2.1.1.2 Professional efficacy

In this study a statistical significant difference was found between professional efficacy and the rank of participants in this study (p=<0.01). Further analyses showed that registered nurses (n=38/42%) experienced higher levels of professional efficacy (mean score =4.72), than enrolled nurses (n=14/14 %) with a mean of 4.63.

5.2.1.1.3 Cynicism

Both the number or years participants were in the unit (p=<0.01), and years in the profession (p=0.05) were significantly associated with cynicism. In contrast in a study by Thorsen et al. (2011:1188), no significant association (p=0.20) was found between cynicism and the number of years participants were in the profession.

Thus, it can be concluded that the following work relationship factors namely emotional exhaustion, professional efficacy and cynicism influence the development of burnout in some situations. Furthermore, analyses showed that participants experienced an average level of emotional exhaustion, high level of professional efficacy and low level of cynicism.

5.2.2 Section C

5.2.2.1 Objective: Determining physical factors influencing the degree of burnout

The section included questions related to risk factors associated with burnout such as physical symptoms, hours of sleeping and sick leave days taken.

A statistical significant difference was found between the amount of hours participants sleep and the way participants travel to work (p=0.04). Further analyses showed that participants travelling with public transport were more likely to sleep less hours.

No statistical significant results were found between sick leave days taken by participants and the demographic data.

5.2.2.2 Objective: Determining psychological factors influencing the degree of burnout

Data obtained about the psychological factors which may influence the development of burnout included: decreased job satisfaction and accomplishment, emotional support and feelings of hopelessness and sense of failure.

The majority of participations (n=56/55%) agreed that they experienced decreased job satisfaction and accomplishment. Further analyses showed a statistical significant difference between decreased job satisfaction and accomplishment and number of years participants were in the profession (p=<0.01).

5.2.2.3 Objective: Determining social factors influencing the degree of burnout

The following factors were included: social support from colleagues, social support from managers and teambuilding and social events.

The majority of participants (n=64/63%) disagreed that they receive social support from their managers.

A statistical significant difference was found between attending teambuilding and social events and the work setting of participants (p=0.02). Further analyses showed that participants (n=24/24%) in the private work setting was more likely to agree than participants (n=78/76%) in the public work setting that as members of a team working together they attend teambuilding sessions or social events.

5.2.2.4 Objective: Determining occupational factors influencing the degree of burnout

Data obtained about the occupational factors which may influence the development of burnout included the following factors: role ambiguity, role conflict, role clarity, workload, recognition, poor communication, coping strategies to cope with work stress, good managerial leadership skills, attendance of in-service training, stress management and time-management.

A statistical significant difference was found between a high workload and the number of years participants were in the unit (p=<0.01).

Furthermore, a statistical significant difference was found in this study between attending in-service training and workshops and the years participants were in the unit (p=<0.01).

Thus, it can be concluded that there are some physical, psychological, social and occupational factors influencing burnout.

5.3 RECOMMENDATIONS

The recommendations are based on preventative measures, because preventing burnout is easier and more cost–effective than resolving burnout once it occurs.

5.3.1 Prevent the accumulation of stress which leads to burnout

Stress management courses should be offered to all staff members with the goal to manage stress while it is in its early stages. It is recommended that debriefing sessions with staff should be implemented after a traumatic or stressful experience in the work environment.

Advances in technology and changes in healthcare procedures in neonatal intensive care units have added new responsibilities to the nurse's traditional role as a caregiver and the patient's advocate, thus demonstrations, in-service training and updating of existing knowledge are recommended.

Furthermore, orientation and mentoring of new staff should be done in work environment in order to prevent that new staff have a negative experience.

5.3.2 Identify and treat physical symptoms if experienced

In order to educate staff the importance of maintaining a healthy lifestyle, wellness programmes in the workplace should be implemented. Any physical symptoms such as tiredness and backache as experienced by the majority of nurses should receive medical attention, preventative measures should be applied to prevent the lifting of heavy equipment and regular rest is recommended.

5.3.3 Enhance effective communication and conflict management

In order to deliver quality nursing care, a healthy and supportive work environment should be created. Regular communication skills workshop should be offered to all staff of the health care team in the neonatal intensive care unit to prevent and manage conflict in the work environment during stressful events. Smith (2004:162) confirms that institutions should offer effective communication skills training which can provide opportunities for nurses and other health care team members to work together as a team and gain a better understanding for each other.

It is also recommended that conflict management and assertiveness training should be attended by staff. Monthly meetings between the different staff members of the healthcare team should be implemented to discuss problems experienced in the workplace and to work together as a team to find solutions to these problems in order to deliver safe and quality care. It is of utmost importance that reward systems are implemented in order to give recognition to staff members for the work they do. For example competition for staff member of the month can be implemented with a reward such as a workday off.

The American Association of Critical-Care Nurses (2005:187), supported that skilled communication, effective decision making and authentic leadership are essential for establishing and sustaining a healthy work environment namely.

5.3.4 Teambuilding sessions

In this study it became evident that the majority of participants did not have any teambuilding sessions. Thus, it is recommended that staff should attend teambuilding sessions to bond with each other.

5.3.5 Encourage ongoing training

Equal access for staff members to the attendance of in-service training, workshops and seminars should be implemented. Presentations by staff members should be implemented in order to share knowledge with each other. It is of utmost importance that each staff member are competent in cardio pulmonary resuscitation.

According to Baumann (2007:22), institutions should encourage ongoing training by supporting professional development and the mutual sharing of knowledge.

5.3.6 Time management workshops

Only 14% of the participants attended time management workshops, thus it is recommended that the unit manager provide nurses with the opportunity to attend such workshops.

5.3.7 Enhance social support and recognition from managers

It is important that nurses receive support from their managers as well as recognition. The introduction of monthly incentives in the unit for outstanding performance will motivate staff and improve moral.

5.3.8 Implementation of burnout surveys

The use of surveys completed by staff members in which concerns and recommendations are made regarding the work environment should be implemented. According to Akgun, Al-Assaf & Coskun (2008:7), burnout surveys should be done at regular intervals in order to improve work performance and commitment of staff.

5.4 FURTHER RESEARCH

Research was only done in Cape Town and it is recommended that research is conducted in other urban, as well as rural areas. Further research should be done to understand the nurses understanding of burnout and investigate their needs to prevent burnout. Through

this, managers can intervene to prevent burnout in nurses. It is recommended that qualitative research should be performed to explore in depth the experiences and perceptions of nurses and burnout.

5.5 LIMITATIONS OF THE STUDY

A limitation in this study was that the research was restricted to only one private and one public sector hospital in Cape Town.

5.6 CONCLUSIONS

This study showed a variety of factors that contributed to the degree of burnout nurses experience who work in neonatal intensive care units. Further analyses showed that participants experienced an average level of emotional exhaustion, high level of professional efficacy and low level of cynicism.

The recommendations were based on preventative measures, because preventing burnout is easier and more cost–effective than resolving burnout once it occurs.

The models of burnout as discussed in chapter two, is of utmost importance for nursing managers to understand in order to be aware of factors that lead to burnout in staff members. Based on the outcome of the study it showed the importance of the job demands-resources model which poses that every occupation has its own specific risk factors associated with job stress but can be classified in two categories, namely job demands and job resources.

The results of the study would contribute towards the awareness of burnout among managers and it is thus anticipated that implementation of the results from the study would improve the degree of burnout experienced by nurses and consequently would lead to job satisfaction and better retention rates of nurses which further lead to improved provision of quality nursing care.

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ANNEXURES

ANNEXURE A: QUESTIONNAIRE

Questionnaire number: _____

A. Demographic factors

1. Age: _____
2. Gender:

Female		Male	

3. Marital status:

Single		Married		Divorced		Widowed	

4. Number of children:

None		1-2		3-4		5+	

5. Income per month:

R2001-5000		R5000 -8000		R8001-11000		R11000+	

6. Highest educational qualification: (Please tick where applicable)

Grade 8		Grade 10		Grade 11		Grade 12	
Diploma		Degree		Postgraduate		Other	

7. Number of years in profession:

0 – 2 yrs		3 – 5 yrs		6 – 9 yrs		10-10+	

8. Rank:_____

9. Number of years in rank/ position:

0 – 2 yrs		3 – 5 yrs		6 – 9 yrs		10-10+	

10. Number of years in the unit:

0 – 2 yrs		3 – 5 yrs		6 – 9 yrs		10-10+	

11. How to you travel to work?

Public transport		Own transport		Walking	

12. Work setting:

Public		Private	

B. Work relationship

Please rate the following thoughts and feelings according to the scale below:

0	1	2	3	4	5	6
Never	**Sporadic (A few times a year or less)**	**Now and Then (Once a month or less)**	**Regular (A few times a month)**	**Often (Once a week)**	**Very Often (A few times a week)**	**Daily**

13. I feel emotionally drained from my work.
14. I feel tired at the end of my workday.
15. I feel tired when I get up in the morning and have to face another day on the job.
16. Working all day is really a strain for me.
17. I can effectively solve the problems that arise in my work.
18. I feel burned out from my work.
19. I feel I'm making an effective contribution to what this Hospital offers.
20. I have become less interested in my work since I started this job.
21. I have become less enthusiastic about my work.
22. In my opinion, I am good at my job.
23. I feel exhilarated when I accomplish something at work.
24. I have accomplished many worthwhile things in this job.
25. I just want to do my job and not to be bothered.
26. I doubt the significance of my work.
27. I have become more cynical about whether my work contributes anything.
28. At my work, I feel confident that I am effective at getting tasks done.

C. 1. Physical factors

29. Do you experience one of the following? Tick with an "x" where applicable.

Frequent headaches	
Back pain	
Change in appetite	
Abnormal weight gain or loss	
Gastrointestinal disturbances	
Muscle aches	
Tiredness	

30. How many of your sick leave days are used for this year?

0 – 2		3 -5		6 –9		10-10+	

31. How many hours do you sleep in a night?

4 and less hours		5-6 hours		6-7 hours		7-8hours	

If less than 6 hours, please specify: _____

C. 2. Psychological factors/emotional

32. I experience decreased job satisfaction and accomplishment.

Agree		Strongly agree		Disagree		Strongly disagree	

33. I have enough emotional support.

Agree		Strongly agree		Disagree		Strongly disagree	

34. I am feeling alone and helpless and experience a sense of failure.

Agree		Strongly agree		Disagree		Strongly disagree	

C. 3. Social factors

35. I receive social support from my colleagues.

Agree		Strongly agree		Disagree		Strongly disagree	

36. I receive social support from my managers.

Agree		Strongly agree		Disagree		Strongly disagree	

37. As a team working together we attend teambuilding sessions or social events.

Agree		Strongly agree		Disagree		Strongly disagree	

C.4. Occupational factors

38. I feel uncertain about what should be accomplished in my job (role ambiguity).

Agree		Strongly agree		Disagree		Strongly disagree	

39. I have two or more role requirements at work that work against each other (role conflict).

Agree		Strongly agree		Disagree		Strongly disagree	

40. I have a clear job description (role clarity).

Agree		Strongly agree		Disagree		Strongly disagree	

41. My workload is too much for me.

Agree		Strongly agree		Disagree		Strongly disagree	

42. I get recognized for the work I do.

Agree		Strongly agree		Disagree		Strongly disagree	

43. I feel there is poor communication amongst staff in the unit.

Agree		Strongly agree		Disagree		Strongly disagree	

44. I have coping strategies to cope with my stress at work.

Agree		Strongly agree		Disagree		Strongly disagree	

45. Our management has good leadership skills.

Agree		Strongly agree		Disagree		Strongly disagree	

46. I attend in-service training and workshops to update my knowledge and skills.

Agree		Strongly agree		Disagree		Strongly disagree	

47. Stress management is offered at the hospital.

Agree		Strongly agree		Disagree		Strongly disagree	

48. I attended a time management workshop.

Agree		Strongly agree		Disagree		Strongly disagree	

ANNEXURE B: CONSENT TO USE THE MASLACH BURNOUT INVENTORY

Ph. (902) 585-1671 Fax (902) 585-1051
cord@acadiau.ca

COR&D
CENTRE FOR ORGANIZATIONAL RESEARCH & DEVELOPMENT

Maslach Burnout Inventory - General Survey (MBI-GS)
Researcher Permission Agreement

Please fill out all yellow entry fields before printing document.

The following Researcher Permission Agreement is entered into between Acadia University, acting under authority granted by CPP, Inc., 1055 Joaquin Road, Mountain View, California 94043, and the Researcher who name appears below. CPP, Inc. is the publisher and copyright owner of the MBI-GS.

Full Name: Ronel Serfontein

Full Mailing Address: P.O.Box 1735, Belville, 7535

Telephone: (082) 892-0944 Fax Number:

E-mail Address: rserfontein@msn.com

University Name & Address: University of Stellenbosch,Faculty of Health Sciences , Tygerberg Campus, Tygerberg

The following constitutes and agreement between Ronel Serfontein

Of University of Stellenbosch, Faculty of Health Sciences ,Tygerberg Campus, Tygerberg

hereinafter called Researcher, and the Centre for Organizational Research & Development of Acacia University, Wolfville, NS, Canada, hereinafter called COR&D, acting as agent for this purpose under authority granted by the publisher, CPP, Inc.

COR&D shall provide the researcher with a master copy of the Maslach Burnout Inventory –General Scale (MBI –GS). The researcher is responsible for copying the MBI –GS and working in the research setting for the distribution of the survey and collection of completed answer sheets.

The researcher will retain full rights to the data for publication. The researcher will forward COR&D a copy of the MBI –GS data (with demographic variables such as gender, age, occupation, and tenure, and the response rate) as part of COR&D's normative record. It will include a description of the organization(s) in which the survey occurred. COR&D shall retain rights to use these data within analyses of its larger data set but will not publish analyses based on these data alone. Analyses of a data set that includes any data arising from this project will give acknowledgement to the researcher as the source of the data.

The researcher will provide COR&D with a copy of any articles submitted for publication arising from this project. This is to keep COR&D informed of the development of the researcher's ideas regarding the survey and to inform COR&D about the participating organization(s). The researcher will not distribute the MBI--GS to any other party. The text of the MBI-GS will not be copied in any publication, research reports, or theses arising from the research.

All copies of the MBI --GS will include the following text:

> "Reproduced by special permission of the publisher, CPP, Inc. Copyright 1996 by CPP, Inc. All rights reserved. Further reproduction is prohibited without written consent."

The researcher agrees to only use the MBI-GS for the purposes of his/her research project as outlined below:

Name of thesis or research project: Strategies to reduce burnout in nurses working in neonatal units in the public sector

Anticipated start date: Jul 26, 2010 completion date: Mar 1, 2011

Size of research sample: 67 permanent nursing staff

The undersigned agree to abide by the terms of this agreement (please sign document after printing):

Signatures

Researcher [signature] Date 09/07/2010

COR&D [signature] Date July 12, 2010

ANNEXURE C: MASLACH BURNOUT INVENTORY–GENERAL SURVEY

Instructions

Relationship With Work Survey

W. B. Schaufeli, PhD, M. P. Leiter, PhD, C. Maslach, PhD, & S. E. Jackson, PhD

Please mark your answers to the items on the answer sheet. The answer sheet will be scanned to input the numerical data for computer analysis. Please do not fold the answer sheet as folding makes it harder to scan.

Mark clearly on the appropriate number with a blue or black pen or a dark pencil. If you use a pencil, you may change your answer by erasing the old mark and marking a new number. If you use pen, you will need to white out the old mark and then mark a new number. If more than one number is marked on a single item, it will be read as a blank item.

Relationship with work

0	1	2	3	4	5	6
Never	**Sporadic A few times a year or less**	**Now and Then Once a month or less**	**Regular A few times a month**	**Often Once a week**	**Very Often A few times a week**	**Daily**

Using the scale above, mark a number on the answer sheet to indicate how often, if ever, you have experienced these feelings. If you have never experienced this thought or feeling, mark 0. If you did have this thought or feeling, fill in the best fitting answer.

1. I feel emotionally drained from my work.
2. I feel tired at the end of my workday.
3. I feel tired when I get up in the morning and have to face another day on the job.
4. Working all day is really a strain for me.
5. I can effectively solve the problems that arise in my work.
6. I feel burned out from my work.
7. I feel I'm making an effective contribution to what this Institution offers.
8. I have become less interested in my work since I started this job.
9. I have become less enthusiastic about my work.
10. In my opinion, I am good at my job.
11. I feel exhilarated when I accomplish something at work.
12. I have accomplished many worthwhile things in this job.
13. I just want to do my job and not to be bothered.
14. I doubt the significance of my work.
15. I have become more cynical about whether my work contributes anything.
16. At my work, I feel confident that I am effective at getting tasks done.

Scoring:
Exhaustion = (1, 2, 3, 4, 6).
Cynicism = (8, 9, 13, 14, 15).

Professional Efficacy = (5, 7, 10, 11, 12, 16).

Table 1. Classification of burnout scores into low, mild, and severe burnout categories according to different guidelines

	MBI-GS manual (Kalimo et al., 2006) a	MBI manual (Maslach et al., 1996) b	**MBI-GS Dutch Version (Schaufeli et al., 2001) c**
Total burnout	0–1.49 none/low 1.5–3.49 mild 3.5–6 severe	No total score of burnout recommended	**exh=>2.40, AND either cyn=>2.25 OR lack of prof. effic. =>2.5 (high burnout AND high cynicism or low professional efficacy)**
			Mild 2.20=>exh<3.80 and either 2.20<=cyn<2.59 or lack of PE <=2.44
			Severe E=>3.80, and either C=>2.59 or lack of PE =>2.25
Exhaustion	0–1.49 no 1.5–3.49 mild 3.5–6 severe	<=16 low (1.77) 17–26 average (1.78–2.88) * >=27 high (2.89	**low <2.20** **high =>2.20**
Cynicism	0–1.49 no 1.5–3.49 mild 3.5–6 severe	<=6 low (1.39) 7–12 average (1.4–2.59) * >=13 high (2.6)	low <2.00 high =>2.00
Lack of professional efficacy	0–1.49 no 1.5–3.49 mild 3.5–6 severe	=>31 low (3.99) 38–32 average (4–4.87) * <=39 high (4.88)	low <2.33 high =>2.33

a The scores are based on the actual response scale, where respondents who have different symptoms weekly are classified as high exhaustion cases, etc. The total score of burnout is calculated as follows: Burnout=0.4 x E+0.3 x C+0.3 x lack of PE.
b The scores are based on thirds of the norm population, i.e., 1/3 of the norm population received a score <=16 and were classified as low exhaustion cases.
c The scores are based on quartiles of the norm population, in that 75% of the norm population received a score <2.20 for exhaustion and were classified as low exhaustion
cases. Clinical burnout cases can also be categorized, corresponding with a group of patients corresponding with the ICD-10 classification for neurasthenia (see Mohren et al., 2003; Schaufeli, Bakker, Hoogduin, Schaap&Kladler, 2001).
* On a scale 0–6

ANNEXURE D: LETTER OF REQUEST TO PARTICIPATE IN THE STUDY AND INSTRUCTION TO COMPLETE THE QUESTIONNAIRE

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

TITLE OF THE RESEARCH PROJECT:

Factors influencing the degree of burnout experienced by nurses working in neonatal intensive care units.

REFERENCE NUMBER:

PRINCIPAL INVESTIGATOR: Ronél Serfontein

ADDRESS: Vleistraat 35, Bellville, 7535

CONTACT NUMBER: 0828920944

You are being invited to take part in this research project. Please take some time to read the information presented here, which will explain the details of this study. Please ask the researcher any questions about any part of this study that you do not fully understand. It is very important that you are fully satisfied and that you clearly understand what this research entails and how you could be involved. Your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the Health Research Ethics Committee (HREC) at Stellenbosch University **and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.**

What is this research study all about?

- **What is the reason for the study?**
  A healthy work environment is essential for nurses working in neonatal intensive care units in order to deliver safe and good patient care, thus the researcher wants to identify factors that may contribute to burnout that are experienced and inform unit managers of personnel needs and necessary recommendations.

- **Where will the study be conducted?**
  The study will be done in your neonatal intensive care unit within the hospital.
- **Are there other sites?**
  Yes, a public and private hospital's neonatal intensive care unit are included.
- **What is the total number of participants altogether?**
  105 permanent nursing staff of all categories i.e. registered nurses, enrolled nurses and enrolled nursing assistants.
- **What does the study aim to do?**

  To investigate factors influencing burnout experienced by nurses working in neonatal intensive care units.

- **Explain all procedures.**

You will complete one questionnaire. The questionnaire consists of 3 sections namely A, B and C. Section A contains demographic data, Section B concerns your work relationship and Section C contains factors influencing burnout. A Lickert scale where you mark the answer is used in each section. The questionnaire will be completed in a quiet, private room. Informed, written consent will be taken separately from the questionnaire by the researcher in order to prevent the linkage of individuals to findings. You will receive a questionnaire after written, informed consent was given. The questionnaire will take approximately forty minutes to complete. You are asked to complete the questionnaire as honest as possible and not to share your information with other participants. After completion of the questionnaire you should place it in the sealed box that will be provided. Based on the findings of this study recommendations will be made to inform unit managers regarding the incidence of burnout and personnel needs.

- **Why have you been invited to participate?**

You were invited to complete the questionnaire in order to contribute.

What will your responsibilities be?

To complete the questionnaire honestly.

- **Will you benefit for taking part in the study?**

  You will benefit indirectly for taking part in this study by sharing your experience and knowledge which may lead to possible change in your institution.

Are there in risks involved in your taking part in this research?

No risks are anticipated for taking part in the study. In any event that a question may lead to certain emotions you will be referred for counselling. If you are working in the public sector, you will be referred to a PAWC institution. If you have a medical aid, you will be referred to a private psychologist.

If you do not agree to take part, what alternatives do you have?

You have the right to refuse to take part in this study and should return the incomplete questionnaire.

- **Will you be paid to take part in this study and are there any costs involved?**

No, you will not receive any form of payment for taking part in the study.

Is there anything else that you should know or do?

- **You can contact the researcher, R. Serfontein 0828920944 for any enquiries.**
- **You can contact the** Health Research Ethics Committee **at 021-938 9207 if you have any concerns or complaints that have not been adequately addressed by the researcher.**
- **You will receive a copy of this information and consent form.**

Declaration by participant

By signing below, I …….. agree to take part in a research study entitled: Factors influencing the degree of burnout experienced by nurses working in neonatal intensive care units.

I declare that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable with.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the procedures, as agreed to.

Signed at (*place*) .....…..…….. On (*date*) ……...…….. 2011.

_____ _____

Signature of participant Signature of witness

Declaration by investigator

I, **Ronél Serfontein** declare that:

- I explained the information in this document to ……..
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above

Signed at (*place*) .....…..…….. On (*date*) ……...…….. 2011.

_____ _____

Signature of investigator Signature of witness

ANNEXURE E: LETTER OF REQUEST TO PARTICIPATING EDUCATIONAL INSTITUTION TO CONDUCT THE RESEARCH

P.O.Box 1735
Belville
7535

Groote Schuur Hospital
Private Bag X 10
Main Road
Observatory
7925

To whom it may concern

RE: Consent for Research thesis project

I, Ronel Serfontein (54325595) am an employee of Groote Schuur Hospital Maternity section. I am currently doing my Masters Degree in Nursing at the University of Stellenbosch. For completion of the degree I need to submit a Thesis. My research focuses on factors influencing the degree of burnout experienced by nurses working in neonatal intensive care units. Participants in this study will include different categories of permanent nursing staff in neonatal units (registered nurses, registered enrolled nurses, and registered nursing assistants). Participants will complete a questionnaire that was compiled by the researcher. Thus this letter serves as application for consent for conducting research in the neonatal unit.

Thanking you,

R.Serfontein
0828920944

ANNEXURE F: LETTERS OF PERMISSION FROM THE PARTICIPATING HEALTH CARE INSTITUTION TO CONDUCT THE RESEARCH

GROOTE SCHUUR HOSPITAL

DEPARTMENT of HEALTH
Provincial Government of the Western Cape

bpatel@pgwc.gov.za

Tel. 021-404 4469 fax 021-404 4304

Private Bag, Observatory, 7935

REFERENCE:

ENQUIRIES: Dr BHAVNA PATEL

Ms Ronel Serfontein

Division of Nursing

Department Interdisciplinary Health

Faculty of Health Sciences

Stellenbosch University

Dear Ms Serfontein

RESEARCH: Factors influencing the degree of burnout experienced by nurses working in neonatal intensive care units.

Your recent letter to the hospital refers.

You are hereby granted permission to proceed with your research.

Please note the following:

a) Your research may not interfere with normal patient care
b) Hospital staff may not be asked to assist with the research.
c) No hospital consumables and stationary may be used
d) Please introduce yourself to the person in charge of an area before commencing.

I would like to wish you every success with the project.

Yours sincerely

Dr Bhavna Patel

Manager: Medical Services

Date:30 November 2010

MEDICLINIC
PANORAMA

PANORAMA
7505

27 October 2011

Dear Ronel Serfontein

Re: Request for permission to conduct research: Thesis titled: Factors influencing the degree of burnout experienced by nurses working in neonatal intensive care units

Herewith, receive confirmation and permission to perform proposed research at Mediclinic Panorama.

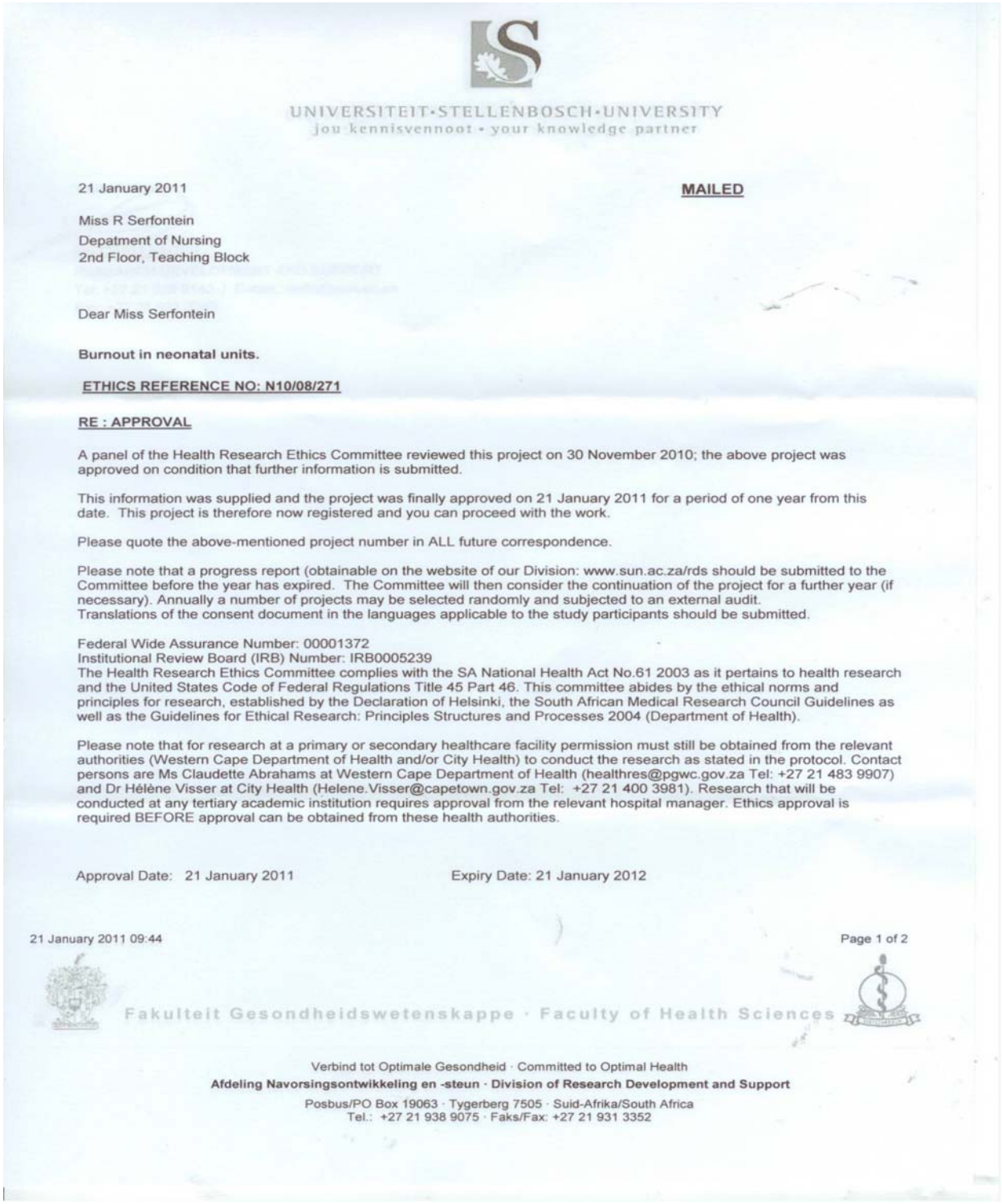
Kind regards

Eugene Stephanus

Deputy Nursing Manager

Mediclinic Panorama

ANNEXURE G: UNIVERSITY OF STELLENBOSCH ETHICS CLEARANCE CERTIFICATE



UNIVERSITEIT·STELLENBOSCH·UNIVERSITY
jou kennisvennoot · your knowledge partner

21 January 2011 **MAILED**

Miss R Serfontein
Depatment of Nursing
2nd Floor, Teaching Block

Dear Miss Serfontein

Burnout in neonatal units.

ETHICS REFERENCE NO: N10/08/271

RE : APPROVAL

A panel of the Health Research Ethics Committee reviewed this project on 30 November 2010; the above project was approved on condition that further information is submitted.

This information was supplied and the project was finally approved on 21 January 2011 for a period of one year from this date. This project is therefore now registered and you can proceed with the work.

Please quote the above-mentioned project number in ALL future correspondence.

Please note that a progress report (obtainable on the website of our Division: www.sun.ac.za/rds should be submitted to the Committee before the year has expired. The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly and subjected to an external audit.
Translations of the consent document in the languages applicable to the study participants should be submitted.

Federal Wide Assurance Number: 00001372
Institutional Review Board (IRB) Number: IRB0005239
The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health).

Please note that for research at a primary or secondary healthcare facility permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health (healthres@pgwc.gov.za Tel: +27 21 483 9907) and Dr Hélène Visser at City Health (Helene.Visser@capetown.gov.za Tel: +27 21 400 3981). Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

Approval Date: 21 January 2011 Expiry Date: 21 January 2012

21 January 2011 09:44 Page 1 of 2

Fakulteit Gesondheidswetenskappe · Faculty of Health Sciences

Verbind tot Optimale Gesondheid · Committed to Optimal Health
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Posbus/PO Box 19063 · Tygerberg 7505 · Suid-Afrika/South Africa
Tel.: +27 21 938 9075 · Faks/Fax: +27 21 931 3352

ANNEXURE H: EDITOR'S DECLARATION

LONA'S LANGUAGE SERVICES

English/Afrikaans
** Translations*
** Editing*
** Proof-Reading*
** Academic Manuscript Preparation*
** Archival Research*
** Transcriptions from Archived Documents*

Member: South African Translators' Institute (SATI)

3 Beroma Crescent
Beroma
Bellville 7530

TO WHOM IT MAY CONCERN

This letter serves to confirm that the undersigned

ILLONA ALTHAEA MEYER

has proof-read and edited the document contained herein for language correctness.

(Ms IA Meyer)

SIGNED

Email: illona@toptutoring.co.za Tel: 27 21 9514257 Cell: 27 78 264 8484 Fax: 0865148540
3 Beroma Crescent Beroma Bellville 7530